

Pacific Region Habitat Monitoring Framework

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I. Preface

This framework provides the Habitat Management Program (HMP) in Pacific Region, with a statement of the objective, goals, underlying principles, and approaches to habitat monitoring. Outlined are the roles, responsibilities, governance, management, and reporting necessary for the successful implementation of the Pacific Region's monitoring strategy.

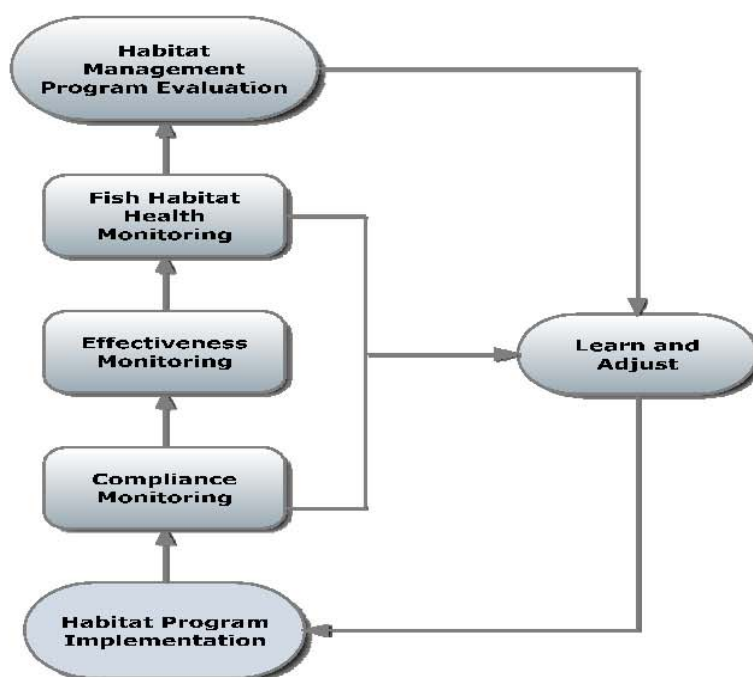
Information gathered will be used to assess compliance with and effectiveness of management actions and regulatory tools used under the *Fisheries Act* and to ensure continuous improvement in the conservation and protection of fish habitat as outlined in the department's Policy for the Management of Fish Habitat (1986).

1. Goals and Objectives

Goals

The primary goal of Habitat Monitoring in Pacific Region is to increase the amount and quality of information available through compliance, effectiveness, and fish habitat health monitoring, in support of continuous improvement in current Habitat Management approaches.

Figure 1 Habitat Management - Monitoring and Evaluation Cycle



Objectives

- Assess and evaluate current habitat management practices, including mitigation and compensation measures;
- Collect data in support of Performance Measurement for Habitat Management Program (HMP).
- Prescribe recommendations on regulatory and management approaches;
- Increase monitoring capacity by building partnerships; and
- Provide consistent, clear communication.

2.0 THE UNDERLYING PRINCIPLES

2.1 Approaches to Monitoring

Pacific Region HMP supports the eighth strategy in DFO's Policy for the Management of Fish Habitat by setting a goal of 20% of Habitat Referral Staff time for monitoring activities.

In addition, Pacific Region has established a dedicated Habitat Monitoring Unit (HMU) in order to combine and compare monitoring information across the Region. Regional consistency for habitat monitoring will allow combining and comparison of information gathered across the Region by staff in each Area. This will be accomplished using common methods with standardized requirements and clear definitions of terminology. Regional strategic compliance and effectiveness monitoring priorities will be identified and used to develop a Regional monitoring plan. Each Area will develop an area specific work plan that supports the Regional plan and outlines what habitat monitoring will be delivered in that Area.

The Pacific Region monitoring initiative will:

- Clearly define what will be measured and why;
- Use accepted standards and procedures;
- Use defensible variables or measures;
- Use statistically sound sampling design and procedures;
- Ensure consistency in data collection; and
- Include mechanisms for feedback on monitoring efforts.

2.2 Types of Monitoring

The Regional Habitat Monitoring Framework supports three types of monitoring: Compliance Monitoring, Effectiveness Monitoring, and Fish Habitat Health Monitoring. Each type of monitoring will be used to provide the information base for Program Evaluation.

Compliance Monitoring - (currently being conducted)

Compliance Monitoring is project-level monitoring that consists of:

- verifying that project design and mitigation measures have been implemented;
- conducting strategic audits of policies, processes, programs, or development activities to verify compliance with the *Fisheries Act*; and
- identifying areas for improvement in management systems, or areas of risk.

Effectiveness Monitoring – (2 yrs from full implementation)

Effectiveness monitoring is project-level monitoring to determine whether tools and initiatives are achieving their intended objectives and outcomes:

- monitoring to verify that mitigation measures are successful in achieving their intended outcomes;
- monitoring to verify that habitat compensation measures are successful in achieving their intended outcomes;
- monitoring to verify that specific management plans, projects, and initiatives are effective in achieving their intended goals and objectives.

Fish Habitat Health Monitoring – (5 yrs from implementation)

Fish Habitat Health Monitoring is ecosystem-level monitoring that consists of:

- monitoring to measure the effects of development activities on fish habitat when those effects are not clearly known in advance;
- monitoring to establish baseline conditions within a watershed to provide a sound information base for planning and management.
- monitoring to determine the cumulative effects of multiple works or undertakings on fish habitat productive capacity and the health of the aquatic system;

2.3 Categories of Monitoring

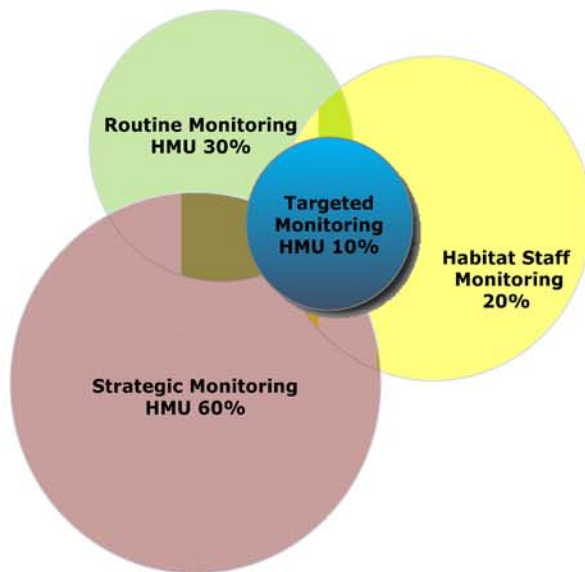
Routine Monitoring consists of random samples of projects drawn from PATH for monitoring to assess general rates and trends. This routine monitoring will be repeated annually and will include an adequate number of projects to ensure that findings are representative of broad Regional outcomes.

Strategic Monitoring uses stratified samples of projects within PATH to address specific Regional or Area compliance and effectiveness questions. This type of sampling and monitoring may or may not be repeated depending of the nature of the question being addressed. Strategic Monitoring may also include baseline and inventory monitoring to support the Habitat Management Program.

Targeted Monitoring includes opportunistic or risk based monitoring to support compliance management. HMU staff will do a limited amount of targeted

monitoring but it will not be a monitoring emphasis for HMU staff. This category of monitoring is expected to mainly be done by Habitat Referral Staff as part of the project review process.

Figure 2 Categories of Monitoring and Levels of effort for HMU and Habitat Staff Effort



3.0 Implementation

3.1 Organizational Structure Habitat Monitoring Pacific Region

The organization model for habitat monitoring in Pacific Region includes a Monitoring Team Leader (BI-04) and a Monitoring Coordinator (BI-03) in RHQ reporting to the HPSP Regional Manager, and new Monitoring Coordinator (BI-03) and Technician (EG-04) positions that are integrated into the existing Area offices. All Area Monitoring Coordinators report operationally to an OHEB Area Manager (BI-05) and functionally report to the Habitat Monitoring Team Leader and will work together as part of the Pacific Region Habitat Monitoring Unit (HMU). HMU will be responsible for developing methodologies, tools, protocols, regional training, data management and reporting related to monitoring in Pacific Region. The roles and responsibilities of the Monitoring Team Leader, Area Monitoring Coordinators and Habitat Monitoring Technicians are outlined in Appendix 1 at the end of this document.

Under this Framework OHEB Area Managers support coordination of monitoring conducted by Area Referral Staff with monitoring conducted by HMU. Area Referral Staff will conduct monitoring of their projects and continue their role in occurrence management.

3.3 Governance

A National Monitoring Team Leaders (NMTL) Working Group has been formed to provide national leadership by contributing to the planning, development and delivery of habitat compliance and effectiveness monitoring activities among the Regions. In Pacific Region HMU will receive direction on plans and priorities and report their findings and recommendations to the following two regional management committees:

3.3.1 Regional Habitat Management Committee (HMC)

This committee is chaired by the Regional Habitat Manager.. The committee membership includes: OHEB Area Managers, Regional EAMP Manager, RHQ Land, Water, Monitoring, Habitat Strategic Initiatives Team Leaders, Area Habitat Program Section Heads (invited to attend by Area Manager as required), DOJ and the Regional Director, OHEB (invited to attend either on an agenda specific basis or twice a year).

3.3.2 Regional Habitat Compliance Committee (RHCC)

The RHCC oversees the joint implementation of the Regional Habitat Compliance Protocol and reports on the results achieved. This committee is co-chaired by the Regional Director of OHEB and the Director of Conservation and Protection. Membership includes the Regional Manager of Habitat Protection and Sustainable Development, a senior Conservation and Protection Officer and the Habitat Monitoring Team Leader.

3.4 PLANNING

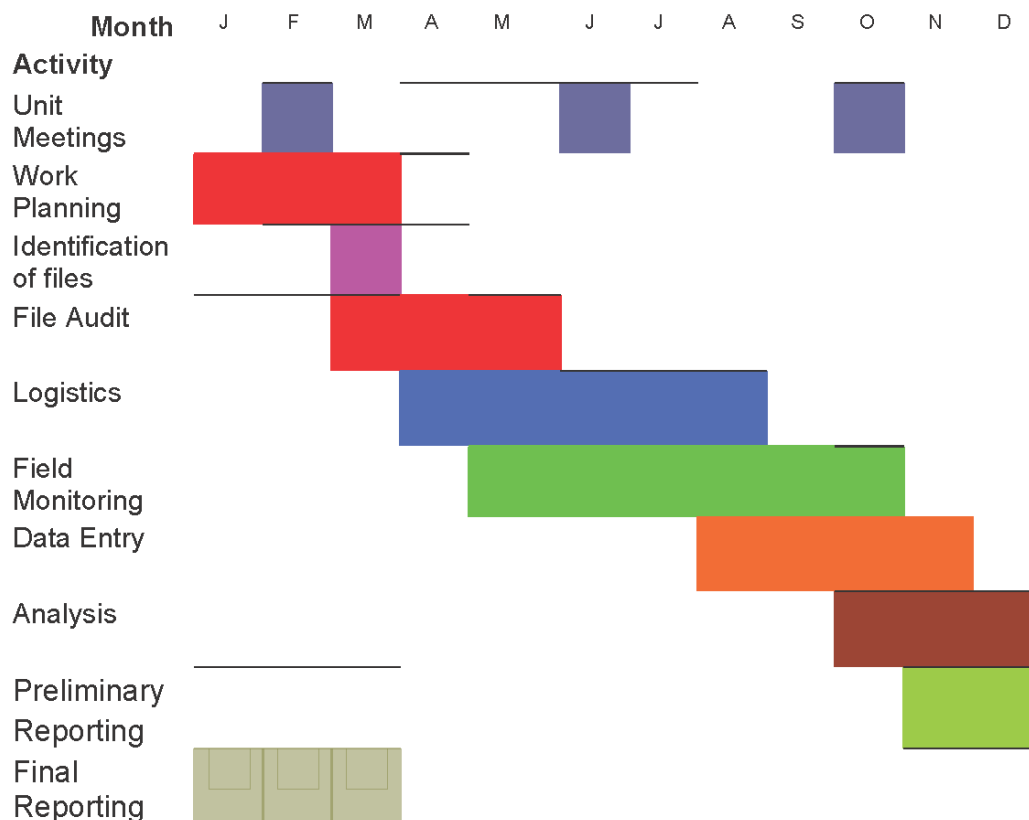
3.4.1 Priorities for work planning

Criteria for determining Regional monitoring priorities:

In developing and prioritizing regional monitoring activities for inclusion in a Regional Monitoring Workplan, Regional Priorities as identified by the RLT annual business planning process along with input from the BI-04 Habitat Working Group will be used. Once developed the regional monitoring priorities and the resultant Regional Monitoring Workplan will be provided to the RLT for review and adjusted at their direction. Regional Monitoring Priorities will be reviewed annually and adjusted at the direction of the RLT to adjust for changing

conditions. Area Managers and the Regional Monitoring Team Leader will ensure regional monitoring priorities are integrated into and supported by Area Monitoring Work Plans.

Table 1. Annual Planning and Monitoring Activity Schedule



3.4.2 Work Plan Components

The rolling up of the Area habitat monitoring work plans into a Regional Monitoring Work Plan will be coordinated by the Habitat Monitoring Lead in consultation with the HMC. It will be revised and updated annually prior to March 31st each year.

The Regional and Area Habitat Monitoring Workplans will include the following elements:

1. Identification and documentation of monitoring priorities
2. Monitoring projects:
 - a. Strategic monitoring projects developed to address specific questions in support of the area priorities and taking into account the

- uniqueness of the area's capacity, management considerations, and operational requirements.
- b. Routine Monitoring of statistically representative samples will be randomly taken from Program Activity Tracking System (PATH) for performance measurement associated with regulatory instruments such as Authorizations and Letters of Advice to allow the assessment of average rates of conformity with advice and compliance with the legislation.
 - c. Targeted compliance monitoring of projects occurring in and around water. This will include compliance monitoring conducted by HMU, HMP biologists/engineers and Fishery Officers.
3. Data entry and analysis
 4. Regional and Area reporting of results
 5. Compliance promotion activities
 6. Partnering and engagement activities
 7. Monitoring support and tool development

3.5 Communications

Communication Strategy:

- Regular regional updates regarding implementation of monitoring
- Annual meetings with Area staff (work planning and reporting)
- Bi-annual briefings of RHCC and HMC (planning and reporting).
- Development of regional onsite compliance monitoring guidance and training for habitat staff

3.6 Information Management

Much of the project and regulatory information necessary to support habitat monitoring is currently available in project files; however, the value of the data varies greatly since there have not been regional data requirements or information standards. This should be rectified through the development of a regional monitoring information management strategy that includes:

1. Development and Implementation of a Regional File Management Protocol that includes.
 - Regional standardized information requirements
 - Standardized data entry requirements
 - Endorsement by regional and area managers
2. Development of Field Monitoring database for information that is not currently captured by PATH but necessary to meet Regional monitoring objectives.

3.7 Program Evaluation

To answer questions about the performance of HMP tools and activities in relation to a specified outcome requires that HMU design and implement monitoring projects that employ consistent methodologies for evaluating success. These standardized methods will enable testing and adjustment of HMP tools and processes thru adaptive management. Senior regional management will endeavor to ensure findings and recommendations from this approach are linked to changes in practices or policies.

3.8 Reporting

National:

Habitat compliance monitoring information that is stored in PATH will be extracted and used by National Headquarters for the development of the following national reports:

Report to Parliament

- The *Fisheries Act* requires the Minister of Fisheries and Oceans to table a report in Parliament on the Administration and Enforcement of the Fish Habitat Protection and Pollution Prevention Provisions of the *Fisheries Act* (Annual Report to Parliament), as soon as possible after the end of each fiscal year.

Departmental Performance Report

- Provides a high-level summary of DFO's performance for the year. Evaluation is based on on ten operational priorities to further our strategic outcomes and management priorities to improve the efficiency and effectiveness of the way we do business.

National Habitat Management Program Logic Model Indicators

- Indicators of performance for immediate, intermediate and ultimate outcomes identified in the national habitat management logic model are currently under development. Monitoring information such as rates of conformity, compliance and average area of habitat impact have been identified as likely indicators of performance.

Regional:

The results of project-level assessments will be summarized, combined and evaluated in reports provided to the HMC and RHCC management committees to help them answer questions on the status of habitat management regulatory activities in the Region. Their intent is to facilitate adjustment to management strategies and improve overall functioning and effectiveness of Habitat Management Programs, and give the HMP the ability to make management and policy decisions by reducing uncertainty. Currently this reporting will include a preliminary presentation report to the HMC on monitoring activities and recommendations prior to their annual business planning process in December with a more detailed written Regional Monitoring Report being provided in the following spring prior to fiscal year end.

Area:

The results of Regional and Area specific monitoring projects will be reported back to each Area Manager and to Area staff on an annual basis by the Area Monitoring Coordinator. These reports may include written summary reports and presentations. This will inform Area Managers and staff about the monitoring activities and issues to focus Area management attention.

3.9 Linkage to Program Management**Regional Level**

Monitoring results will be provided to the HMC so it can be used to evaluate and adjust regional habitat priorities or practices in light of monitoring information.

Compliance monitoring results will be also provided to the RHCC so it can identify regional compliance trends, evaluate regional compliance management activities and make informed decisions regarding the adjustment of regional compliance management policy and practices.

The Bi-04 Working Group (Area Section Heads and RHQ Team Leaders) under the direction of the HMC will use monitoring results to evaluate and adjust regionally developed regulatory tools and guidance, such as Best Management Practices and Regional Operational Policies.

Appendix 1 -- Roles and Responsibilities

Regional Monitoring Team Leader:

- The Regional Monitoring Team Leader will provide regional leadership, technical support and functional direction to Habitat Monitoring Coordinators in planning, coordinating, assessing, and reporting compliance, effectiveness, and fish habitat health monitoring activities.
- The Regional Team Leader will develop and coordinate the deliver of regional monitoring projects including the analysis and reporting of results.
- Coordinates monitoring activities within the Region, including coordination of monitoring activities with Regional industry groups, Provincial agencies, and Regional stewardship and First Nation groups;
- Manages Regional data collection through PATH;
- Reports annually on the monitoring activities and results to NHQ;
- Arranges joint research studies involving Science and Regional industry groups, Provincial agencies, and Regional stewardship and First Nation groups;
- Develops educational and information products relating to monitoring and compliance promotion and presents information publicly to increase awareness of habitat values, issues, policies and legislation.
- Works with various groups such as industry, stewardship groups and other government agencies on monitoring program design and assessment techniques to improve quality control on future projects and strengthen partnerships.
- Develops and maintains co-operative working relationships with Area staff, RHQ staff, industry, other government departments, Provincial, municipal and Regional authorities, and communities to ensure effective implementation of monitoring activities and communication of results and potential policy changes.
- Coordinates the development of field procedures, tools, techniques and standards for use by area monitoring staff.
- Extracts, analyzes and interprets physical and biological information from electronic databases (e.g. PATH) to prioritize the regionally-defined field assessments.
- Coordinates observations, recommendations, and monitoring results and develops recommendations to senior management (RHQ and NHQ) respecting the modification of Regional policies, procedures and protocols to improve program effectiveness, consistency, and public accountability with respect to habitat management practices.

RHQ Monitoring Coordinator:

- Receives functional and operational direction from RHQ Habitat Monitoring Team Leader.
- Supports the Regional Team Leader in the organization, coordination and/or completion of Regional activities as outlined in the Regional Monitoring Workplan.
- Conducts compliance and effectiveness monitoring of Major Projects through field audits, bioengineering assessments, and intensive biological, hydrological and physical sampling as outlined in an annual workplan;
- Collects and records monitoring information associated with Major Projects in PATH and reports on results;
- Supports Environmental Assessment Major Projects (EAMP) staff in the review proponent-responsible monitoring associated with Major Projects as outlined in an annual workplan and summarizes results.
- Provides advice to EAMP staff on the design and implementation of compliance and effectiveness monitoring plans.

Area Monitoring Coordinator:

- Receives functional direction from RHQ Habitat Monitoring Team Leader and direct line supervision from OHEB Area Manager.

Functional Supervision

Functional supervisor is responsible for providing direction regarding activities and tasks specifically associated with monitoring. The functional supervisor assigns tasks, monitors progress, reviews results and is responsible for the completed work product.

Direct Supervision

Direct supervision includes the assignment of tasks; the observance, review, and evaluation of performance; the approval of Area monitoring workplans and administration of line personnel functions. Approves area habitat monitoring priorities and provides direction to the Area Monitoring Coordinator and Area staff in the delivery of area monitoring activities.

Recognizing the dual reporting structure collaborative communication is expected between both managers and the Area Coordinator.

- Identifies and documents habitat monitoring priorities for the Area and contributes to the development of regional monitoring priorities.
- Develops and coordinates the delivery of monitoring projects and an Area Monitoring Plan based upon Area and Regional habitat monitoring priorities.

- Develops, manages, and coordinates delivery of Area strategic monitoring and auditing activities, priorities, and annual work plans (with input from Area habitat practitioners, Area C&P staff, direction from RHQ Habitat Monitoring Team Leader, and supervision by OHEB Area Manager).
- Organizes, coordinates, and conducts compliance and effectiveness and ecosystem health monitoring and audit of priority subjects in conjunction with Habitat Monitoring Technician, local habitat practitioners and C&P staff as appropriate.
- Acts as Area contact for monitoring advice.
 - a. Advises on priorities, methods, information management, and.
 - b. Assists habitat practitioners and C&P staff with compliance monitoring as well as effectiveness monitoring by advising on techniques and conditions for inclusion in authorizations, inspections, investigations, etc.
 - c. Delivers monitoring and field data management (specific to monitoring) training and instruction to staff.
- Identifies and contributes to the development of tools required to collect and store monitoring data such as forms, databases, and protocols.
- Provides training to assist Area habitat staff on implementation of monitoring initiatives, data collection techniques, and assessments.
- Oversees inputs into, updates, retrieves, and analyzes monitoring data from computerized databases.
- Extracts, analyzes and interprets physical and biological information from electronic databases (e.g. PATH) to prioritize monitoring activities
- Prepares reports, presentations, briefing material and correspondence and provides recommendations and advice for Area managers (e.g. quarterly/annual reports to Area Managers of OHEB and C&P).
- Generates reporting statistics to meet Area/RHQ/NHQ requirements.
- Participates in compliance promotion activities including education and technical training initiatives; partnering agreements and stewardship programs and activities designed to achieve compliance with the habitat protection provisions of the Fisheries Act.
- Supervises EG-04 Habitat Monitoring Technician (s) (and conducts associated human resources management duties: work plans, training plan, appraisals, etc.)
- Manages Area monitoring budget and conducts associated financial duties
- Participates as the representative for their Area in regular Habitat Monitoring Unit (HMU) meetings and during regional workshops or other activities supporting the implementation and operation of regional monitoring initiatives.
- Provides recommendations to Area and Regional Managers (through the HMU Team Lead) respecting the modification of practices, policies and approaches in use by the HMP based on monitoring results;
- Participates in joint research studies involving Science and Regional industry groups, Provincial agencies, and Regional stewardship and First Nation groups;

- Maintains co-operative working relationships with Area staff, RHQ staff, industry, other government departments, Provincial, municipal and Regional authorities, and communities as necessary, to ensure effective implementation of monitoring activities and communication of results.
- At the discretion of the Area Manager in consultation with the Regional Monitoring Team Leader, may provide limited support to assist the local Area Habitat Program as needed and as defined within the Area Habitat Monitoring Coordinator's Workplan to be signed off by both the Area Manager and the RHQ Habitat Monitoring Team Leader.

Area Monitoring Technician:

- Receives direction from the Area Habitat Monitoring Coordinator.
- Participates in the field delivery, data gathering and input of data associated with monitoring projects as identified in the Area Monitoring Workplan.
- Assists the Area Coordinator and Area Habitat Staff in the delivery of field monitoring activities as outlined in the Area Monitoring Workplan.
- Conducts compliance, effectiveness and ecosystem health monitoring of priority projects in conjunction with Habitat Monitoring Coordinator, local habitat practitioners and C&P staff as per the Area Monitoring Workplan.
- Inputs monitoring data into computerized databases.
- Prepares updates regarding field monitoring and data entry progress to the Habitat Monitoring Coordinator.
- Participates in compliance promotion activities including education and technical training initiatives, and activities in support of partnering agreements and stewardship programs as outlined in the Area Annual Workplan.
- Contributes to the identification, development and testing of tools required to collect and store monitoring data such as forms, databases, and protocols.