You have selected this document because your project involves Wharves, Piers, Docks, Boathouses and/or Small Moorings in or about a stream. Works addressed in this Guidebook section include:

- wharf, pier, dock and/or boathouse removal, construction or maintenance; and/or;
- small moorings.

These structures can impact important habitat by covering spawning habitat, removing rocks and logs that provide shelter, causing erosion and sedimentation from bank disturbance, introducing deleterious substances if improper building materials are used and disrupting sensitive fish life stages. When planning your project develop designs and select locations to minimize potential impacts to fish and fish habitat. If your works are outside the scope of this Guidebook then a MOE Approval application must be completed and DFO contacted to determine if a review and/or Authorization under the Fisheries Act is appropriate.
Before you proceed with your project you must ensure that you:

- understand and apply the appropriate Water Act Standards to your project;
- understand the federal Fisheries Act and ensure you are in compliance with Section 35 of the Act which prohibits the Harmful Alteration, Disruption or Destruction (HADD) of fish habitat and Section 36 of the Act which prohibits the release of deleterious substances to a watercourse;
- review the appropriate DFO Pacific Region Operational Statement(s) and determine if Operational Statement Notification and/or Authorization is appropriate;
- incorporate the applicable Best Management Practices to comply with the Standards; and,
- complete and submit a Notification, Approval and/or Authorization application for MOE and DFO as required for your project.

Disclaimer

Information in this document is provided for guidance only. Users must apply appropriate legislation and regulations as applicable to the works in and about a stream that are being considered. It is strongly recommended that an appropriately Qualified Professional(s) (QP) be consulted as part of project development. Legislation and regulations should be consulted and applied as they pertain to your project. If a discrepancy arises between this document and legislation, the legislation takes precedence. Neither the Province of British Columbia nor Government of Canada guarantee the accuracy or completeness of the information referenced herein and in no event are liable or responsible for damages of any kind arising from its use. Note that other legislation and regulations (e.g., municipal) may also apply to such activities and should be consulted.
How to proceed with your Wharf, Pier, Dock, Boathouse or Moorings project

The following five (5) steps will help guide you through the provincial and federal Notification, Approval and/or Authorization process for Wharf, Pier, Dock, Boathouse or Small Mooring Construction, Maintenance or Removal works.

**Step 1**

Does your project involve Wharf, Pier, Dock, Boathouse or Mooring Construction, Maintenance or Removal in or about a stream?

Yes: Proceed to Guidebook Introduction to reselct project appropriate activity OR Contact your local MOE/DFO representative for assistance

No: Proceed to Guidebook Introduction for further details on Legislation, Regulations, Policies, Avoidance of HADD under the Fisheries Act and applicable Region Operational Statement(s)

**Step 2**

Have you considered all applicable Legislation, Regulations and Policies?

Yes: Proceed to Guidebook Introduction

No: See DFO Authorization and MOE Approval Section

**Step 3**

Does your project involve Wharf, Pier, Dock, Boathouse or Mooring Construction, Maintenance or Removal as defined by the Water Act Standard?

Yes: Will your project meet all of the Sizing Conditions (see next page)?

No: See DFO Authorization and MOE Approval Section OR Return to Guidebook Introduction

Yes: See DFO Authorization and MOE Approval Section

No: See DFO Authorization and MOE Approval Section

**Step 4**

Does your project consider provincial Crown Land Private Moorage (see Private Moorage Policy)?

Yes: Which of the following statements apply to your project?

A: Removal

Works involve Removal of a floating, cantilever or post-support structure and does not require any dredging, blasting or infilling. Ebb and flow of water and movement of material under the influence of waves or currents will not be obstructed.

B: Construction or Maintenance

Works involve Construction or Maintenance of a floating, cantilever or post-support structure and does not occur over or adjacent to a location involving known fish spawning habitat or require any dredging, blasting or infilling. Ebb and flow of water and movement of material under the influence of waves or currents will not be obstructed.

C: Small Mooring

Works involve Small Mooring and will not include installation or operation of a large structure fixed to the bottom (e.g. permanent navigational beacon, boat mooring bolted to the substrate) or occur in areas of spawning habitat.

**Step 5**

Proceed to BMP Section of this document and apply relevant BMPs and Conditions to help your project adhere to the required Standards and Conditions

If you have read the Standards, BMPs and Conditions and your Project will comply with applicable Conditions proceed to Step 5

A: Apply for DFO Authorization

AND Submit MOE Notification

B: Submit DFO Notification

AND Submit MOE Notification

C: Submit DFO Notification

AND Submit MOE Approval

Wharf, Pier, Dock, Boathouse & Mooring – Standards and Best Practices for Instream Works

3
How to proceed with your Wharf, Pier, Dock, Boathouse or Moorings project

**Sizing Conditions for Construction or Maintenance Activities Associated with Wharves, Piers, Docks, Boathouses or Moorings:**

Size limits for new or replacement structures, including any attached fingers are as follows:

- structure must fit in a 80 m$^2$ rectangular area or envelope adjacent to the shore. If your project structure exceeds 80 m$^2$ you must obtain DFO Authorization and MOE Approval;

- a maximum of two fingers may extend from the main structure;

- combined maximum surface area of main structure and fingers is 46 m$^2$; and,

- first 3 m of structure adjacent to the shore must be provided as an open span to accommodate water circulation and exchange and fish movement.
Best Management Practices (BMPs)

Step 4

The following Best Management Practices (BMPs) are methods that, if followed, will help ensure your project minimizes potential impacts to fish and fish habitat and will provide a standard level of protection to the aquatic and terrestrial environment potentially affected by your project.

It is the responsibility of the proponent/developer to ensure that they are in compliance with all applicable legislation.

There are three (3) types of BMPs you should consider:

i. **General BMPs and Standard Project Considerations** applicable to any project;

ii. **Wharf, Pier, Dock, Boathouse or Small Mooring Construction, Maintenance or Removal** specific BMPs (below); and,

iii. **Supportive information** applicable to project design, implementation and **Wharf, Pier, Dock, Boathouse or Small Mooring Construction, Maintenance or Removal** techniques.

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i. **General Project BMPs and Standard Project Considerations**

Please proceed to the **General BMPs and Standard Project Considerations** section to review considerations applicable to your project.

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ii. **Wharf, Pier, Dock, Boathouse or Small Mooring Construction, Maintenance or Removal Specific BMPs**

To achieve the required Standards and objectives that your activity must meet, apply the following BMPs as applicable to your works.

To reduce impacts on fish and wildlife habitats and populations, your **Wharf, Pier, Dock, Boathouse or Small Mooring Construction, Maintenance or Removal** activities must consider:

A. **Wharf, Pier, Dock or Boathouse Removal Activities**

**DESIGN**

**DSM01** ensure **General BMPs and Standard Project Considerations** have been consulted and appropriately applied prior to, during and after commencement of work;
**Best Management Practices (BMPs): continued...**

**OPERATIONAL**

**DSM02** ensure works adhere to Regional Timing Windows to prevent disruption of fish and wildlife habitat;

**DSM03** minimize disruption to habitat by ensuring removal activities do not include dredging, blasting and/or placement of fill below the waterbody high water mark (HWM);

**DSM04** remove existing structures and/or pilings in a manner that prevents foreshore disturbance and/or sediment generation;

**DSM05** cut or brake off any piles as close to the waterbody bottom as possible if they cannot be pulled out;

**DSM06** remove any old structures or pilings to a suitable upland disposal site away from riparian vegetation to avoid waste material from re-entering the watercourse;

**DSM07** immediately notify MOE and DFO if significant damage to a lake or foreshore or if significant quantities of deleterious substances occur to a lake as a result of removal works (MOE Emergency Management Plan Incident Reporting Hotline 1-800-663-3456; DFO Observe, Record and Report Hotline 1-800-465-4336);

**DSM08** remove debris by hand, where possible;

**DSM09** remove spoil materials in a way that ensures sediment or debris does not enter the watercourse;

**B. Wharf, Pier, Dock or Boathouse Construction & Maintenance Activities**

**DESIGN**

**DSM10** ensure General BMPs and Standard Project Considerations have been consulted and appropriately applied prior to, during and after commencement of work;

**DSM11** ensure works adhere to Regional Timing Windows to prevent disruption of fish and wildlife habitat;

**DSM12** design and construct private structures using Qualified Professional(s) (QP), dependent on scale and scope of the project;

**DSM13** select structure locations to avoid lake inlet/outlet streams and riparian vegetation;

**DSM14** design and locate structures to avoid the need for future maintenance dredging;

**DSM15** ensure elevated structures extend a sufficient distance offshore from the waterbody high water mark (HWM) to prevent grounding of floating sections;

**DSM16** design minimum clearance below a floating structure at low water to be 1.5 m to avoid the wash from propellers disturbing the waterbody floor;

**DSM17** design structures to have a minimum of 50 m (undisturbed shoreline) between other in-water structures;
**Best Management Practices (BMPs): continued…**

<table>
<thead>
<tr>
<th>DSM18</th>
<th>prevent interruption of water currents and reduce potential for altered patterns of erosion or sediment deposition by leaving the site in as natural a condition as possible and installing a minimum number of well-spaced pilings;</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSM19</td>
<td>ensure existing rocks and logs in the aquatic environment remain where they are and are not used as building materials;</td>
</tr>
<tr>
<td>DSM20</td>
<td>construct elevated decks and walkways so they are spaced to allow light penetration to the foreshore;</td>
</tr>
<tr>
<td>DSM21</td>
<td>do not use rubber tires as floatation system components for proposed floating dock sections as they are known to produce extracts that are toxic to fish and aquatic invertebrates;</td>
</tr>
<tr>
<td>DSM22</td>
<td>avoid construction of multiple structures in a localized area by designing communal structures rather than private structures;</td>
</tr>
<tr>
<td>DSM23</td>
<td>minimize shading from access ramps or walkways by elevating them above the surface of the water and designing them to have a maximum width of 1.5 m;</td>
</tr>
</tbody>
</table>

**OPERATIONAL**

<table>
<thead>
<tr>
<th>DSM24</th>
<th>minimize disruption to habitat by ensuring construction or maintenance activities do not include dredging, blasting and/or placement of fill below the waterbody high water mark (HWM);</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSM25</td>
<td>conduct pile driving from a floating structure (i.e. a barge) so that disturbance to the waterbody bottom is prevented, if required for construction or maintenance, where feasible;</td>
</tr>
<tr>
<td>DSM26</td>
<td>if pile driving activities are required to be conducted from a barge, ensure activities adhere to the following: Awake: sufficient water must be present to prevent the barge from grounding on the foreshore;</td>
</tr>
<tr>
<td></td>
<td>• minimize the use of barge stabilizing spuds and their disturbance to the foreshore;</td>
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<tr>
<td></td>
<td>• fully restore any foreshore areas disturbed by barge stabilizing spuds by hand, in the dry, and during low water prior to the next spring freshet; and,</td>
</tr>
<tr>
<td></td>
<td>• during maintenance or construction prop scour of the foreshore must not occur from tending vessel(s). This may require maneuvering of barges in shallow water with ropes tied to shore and/or pilings.</td>
</tr>
<tr>
<td>DSM27</td>
<td>isolate fish from the work area (e.g. bubble curtains) prior to the commencement of any pile driving operations;</td>
</tr>
<tr>
<td>DSM28</td>
<td>if conducting pile driving work during the winter, inspect foreshore substrates to determine whether frozen substrate conditions exist and machine pads are required to minimize foreshore disturbance;</td>
</tr>
</tbody>
</table>
Best Management Practices (BMPs): continued...

**DSM29** ensure construction activities involving pile driving are monitored on a full-time basis by an **appropriately Qualified Professional** (QP) during project start-up and during any instream work or sensitive activity periods;

**DSM30** replace or relocate rocks, stumps or logs required to be moved from the waterbody bottom or foreshore during construction to an area of similar depth. Do not remove these materials altogether from the bottom or foreshore;

**DSM31** use inert or untreated materials (e.g. fir, cedar, hemlock) as supports for structures that are to be submerged in water. Treated lumber must not be used as it may contain compounds that can be released into the water and become toxic to the aquatic environment;

**DSM32** cut, seal and stain (non-toxic) all lumber away from the water and ensure it is completely dry before used near water;

**DSM33** ensure plastic barrel floats are free of any chemicals inside and outside of the barrel before they are placed in water;

**DSM34** install concrete abutments entirely on land above the **high water mark (HWM)** if required to secure structures,

**DSM35** prevent deleterious substances such as uncured concrete, grout, paint, sediment and preservatives from entering the waterbody or stormdrains;

### C. Small Mooring Activities

**DESIGN**

**DSM36** ensure **General BMPs and Standard Project Considerations** have been consulted and appropriately applied prior to, during and after commencement of work;

**DSM37** ensure works adhere to **Regional Timing Windows** to prevent disruption of fish and wildlife habitat;

**DSM38** avoid locating moorings in sensitive aquatic habitats such as fish spawning areas;

**OPERATIONAL**

**DSM39** when installing on the bottom of the waterbody, avoid installing mooring structures in areas of submerged aquatic vegetation;

**DSM40** ensure moorings (including anchors and floats) are made of clean, inert material;

**DSM41** pre-cast and cure concrete anchors, if required, away from water prior to use to prevent seepage of potentially toxic substances into the waterbody;

**DSM42** locate moorings in depths that allow structures and vessels to remain afloat at the lowest possible water levels and that prevent propellers from disturbing bottom sediments;

**DSM43** select mooring anchors of an adequate size to secure vessels or structures and prevent the anchor from shifting or dragging along the bottom of the waterbody;
**Best Management Practices (BMPs): continued...**

<table>
<thead>
<tr>
<th>DSM44</th>
<th>size the length of <em>mooring</em> lines, chains or cables to avoid excess line, chain or cable accumulation on the bed of the waterbody;</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSM45</td>
<td>ensure native beach material such as logs, sand, gravel and boulders that are important components of fish habitat are not used as <em>mooring</em> structures and are left in place on the foreshore;</td>
</tr>
<tr>
<td>DSM46</td>
<td>derelict or unused floats, lines, chains or cables should be disposed of in accordance with appropriate legislation and standards; and,</td>
</tr>
</tbody>
</table>

**POST WORK MITIGATION**

| DSM47 | ensure *moorings* are kept in good repair by regularly inspecting and maintaining the structure. |
iii. Supportive Information

The following sources provide you with additional planning, design, implementation and review advice for a variety of project-specific activities. Please follow the appropriate links to obtain further information on your project specific activity.

General Considerations

Pacific Region Operational Statements
http://www-heb.pac.dfo-mpo.gc.ca/decisionsupport/os/operational_statements_e.htm

Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia
http://www.env.gov.bc.ca/wld/documents/bmp/devwithcare2006/DWC%202006%20Sec%201%20Introduction.pdf

Guidelines to Protect Fish and Fish Habitat from Treated Wood Used in Aquatic Environments in the Pacific Region

Land Development Guidelines for the Protection of Aquatic Habitat (Section 5 and 6)

Crown Land Private Moorage, Ministry of Agriculture and Lands
http://www.al.gov.bc.ca/clad/tenure_programs/programs/privatemoorage/index.html

Crown Land Use Operation Policy: Private Moorage, Ministry of Agriculture & Lands
http://www.al.gov.bc.ca/clad/leg_policies/policies/private_moorage.pdf

Structure Design & Techniques

Dock and Boathouse Construction in Freshwater Systems, DFO Pacific Region
http://www-heb.pac.dfo-mpo.gc.ca/decisionsupport/os/os-docks_e.htm

Shoreline Structures Environmental Design: A Guide for Structures along Estuaries and Large Rivers

Best Management Practices for Small Boat Moorage on Lakes

Rideau Canal and Trent-Severn Waterway National Historic Sites of Canada: Policies for In-Water and Shoreline Works and Related Activities

Shore Primer, Fisheries & Oceans Canada & Cottage Life

Dock Primer, Fisheries & Oceans Canada & Cottage Life
http://www.cottagelife.com/index.cfm/ci_id/2682/la_id/1/document/1/re_id/0
Supportive Information continued

Small Mooring Design & Techniques

Small Moorings, DFO Pacific Region Operational Statement
http://www-heb.pac.dfo-mpo.gc.ca/decisionsupport/os/os-small_moorings_e.htm
If you determine that your project requires notification and/or approval from MOE or DFO, please ensure that MOE and/or DFO application instructions are followed and forms completed and sent to the appropriate agency.

The latest application instructions and forms for MOE and DFO can be found at http://www.env.gov.bc.ca/wld/BMP/