

APPENDIX D

Oregon BiOp Floodplain Habitat Assessment Worksheet



Note from DLCD:

The Federal Emergency Management Agency (FEMA) sent this draft to DLCD for a preliminary review prior to the start of the formal review through the National Environmental Policy Act (NEPA). FEMA has given DLCD until July 31, 2018 for this review. This document is still a draft, and local governments do not need to enact any amendments to their floodplain ordinance until FEMA makes a final decision through the NEPA process.

-

From an initial review of this draft, it is disappointing that it does not reflect the recommendations generated earlier in the process through the workgroups, or the state recommendations sent to FEMA in October 2017. The draft also implies that local governments are obligated to adopt standards described in the Reasonable and Prudent Alternative (RPA). Since the BiOp and RPA do not create new federal standards, this implication is troubling.

-

The draft contains little new information; therefore the input received from the workgroups will be used to develop a response to FEMA. During the NEPA process, the workgroups may be reconvened to gather input from local governments, depending on the available time and utility of offering additional comments to FEMA.

INTRODUCTION

The National Flood Insurance Program (NFIP) is a voluntary federal program through which property owners in participating communities can purchase federal flood insurance as a protection against flood losses. In exchange, communities must enact local floodplain management regulations to reduce flood risk and flood-related damages within the mapped Special Flood Hazard Area (SFHA). The National Marine Fisheries Service's Biological Opinion (BiOp) (April 14, 2016) on the implementation of the National Flood Insurance Program in Oregon requires local communities that do not have BiOp-compliant floodplain management ordinances to require and review a Habitat Assessment (HA) before approving a floodplain permit, with some exceptions as noted below.

This worksheet is a tool for land use planners and biologists to 1) determine if an HA is needed and 2) identify items that must, at a minimum, be addressed in HAs. If a project does not fit into the categories in Section 1.1 or 1.2, then an HA would be required.

The permit application reviewer can use this worksheet to work through whether the application meets the requirements. By checking the boxes, the reviewer can track that the activity has been completed satisfactorily. If an HA is not required, check the box by the criteria that apply and retain this worksheet with the permit file. If an HA is required, complete the worksheet and retain a copy with the permit file.

The [Regional Guidance for Floodplain Habitat Assessment and Mitigation](#) (August 2018) provides more detail on how to prepare an HA and assess impacts of land management actions on Endangered Species Act (ESA)-listed salmonid species, orcas, and their designated critical habitats within floodplains. Many terms that are not specifically defined in this document may be defined in the Regional Guidance for Floodplain Habitat Assessment and Mitigation.

For each permit decision, a community is required to retain the documentation relied upon in making the determination of effects on ESA-listed salmonids and orcas in the permit file. Such documentation may include this completed checklist, the HA, or any other documents, reports, or studies that support the determination of effect on ESA-listed species.

1. When a Habitat Assessment Is Required

A habitat assessment is required for any development that takes place in the Special Flood Hazard Area, which is the area subject to flooding by the base flood (as determined and mapped for each community by FEMA within flood insurance studies and accompanying Flood Insurance Rate Maps [FIRMs]), unless that development falls into one of the exceptions listed in Section 2.2 below. Under FEMA's regulations, development "means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials." As explained in Section 2.1, activities that do not constitute development under FEMA's regulations do not require a habitat assessment.

2. Exceptions

2.1. Neither a Floodplain Permit nor Habitat Assessment is needed

Communities may allow the following activities in the floodplain without requiring a floodplain development permit to develop in the Special Flood Hazard Area, provided all applicable federal, state, and local requirements are met. A Floodplain Permit is not required because these activities do not meet the NFIP definition of "[development](#)". Note: local community regulations may be more restrictive than the minimum standards (44 CFR 59).

- Routine maintenance of existing landscaping that does not involve grading, excavation, or filling.
- Removal of noxious weeds, hazard trees, and replacement of non-native vegetation with native vegetation.
- Normal maintenance of above ground utilities and facilities, such as replacing power lines and utility poles.

"Development" is "any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials." Source: [FEMA](#)

- Normal road maintenance, such as filling potholes, repaving, installing signs and traffic signals, but not including any expansion.
- Normal maintenance of a levee or other flood control facility as prescribed in the operations and maintenance plan for the facility.
- Normal maintenance does not include repair from flood damage, any expansion of the prism, face or toe expansion, or the addition of material for protection or armor.
- Plowing and other normal farm practices (other than new structures or filling) on legally existing agricultural areas. Clearing additional land for agriculture will likely require a floodplain development permit and a Habitat Assessment.

2.2. A Floodplain Permit is required but a Habitat Assessment is not Required

Communities may allow the following activities in the floodplain without an HA, provided a floodplain development permit is obtained, and all applicable federal, state, and local requirements are met. Please include documentation that supports the determination that an application is exempt from the HA requirement in the permit file when any of the following are applied to a project. Documentation must be kept in the permit files.

- Normal maintenance, repairs, or remodeling of structures, such as re-roofing and replacing siding, provided such work is not a [substantial improvement](#) or a repair of [substantial damage](#). To comply, such work must be less than 50% of the value of the structure(s).
- Activities with the sole purpose of creating, restoring or enhancing [natural functions](#) associated with floodplains, streams, lakes, estuaries, marine areas, habitat, and riparian areas that meet federal and state standards, provided the activities do not include structures, grading, fill, or impervious surfaces.
- Development of open space and recreational facilities, such as parks, trails, and hunting grounds, that do not include structures, fill, impervious surfaces on that portion of the property in the floodplain.
- Repair to onsite septic systems, provided ground disturbance is the minimal necessary and [best management practices](#) (BMP's) to prevent stormwater runoff and soil erosion are used.
- Projects that have already received concurrence under another permit or other consultation with the Services, either through Section 7, Section 4d, or Section 10 of the Endangered Species Act (ESA) that addresses the entirety of the project in the floodplain (such as an Army Corps 404 permit or non-conversion Forest Practice activities including any interrelated and interdependent activities.).
- Repair of an existing, functional bulkhead in the same location and footprint with the same materials when the Ordinary High Water Mark (OHWM) is still outside of the face of the bulkhead (i.e. if the work qualifies for an Army Corps exemption from Section 404 coverage) because such projects fall within the regulatory jurisdiction of the Army Corps.

A "Regulatory Floodway" is the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

Source: [FEMA](#)

Table 1. Bulkhead Considerations

Armoring Scope	Habitat Assessment Needed?	Floodplain Development Permit Required?
Bulkhead repair in same location and footprint with same materials. Bulkhead must be functioning and OHWM cannot be behind the structure to qualify as a repair.	No HA required	Yes
Bulkhead replacement: different material, different place, or different angle	Yes – An abbreviated HA may be appropriate	Yes
New bulkhead	Yes	Yes

OREGON BIOLOGICAL OPINION FLOODPLAIN HABITAT ASSESSMENT MINIMUM STANDARDS WORKSHEET

Brief Description of Proposal: _____

Permit #: _____

General RPA Requirements:

This checklist is intended to assist permit reviewers in determining whether an HA meets the minimum standards for the habitat assessment analysis.

- Documentation that new structures are located in the least impactful location, as practicable, including documentation of the measures taken to avoid placing structures in the floodplain and steps taken to minimize the impacts of the proposed project on floodplain functions (see [Floodplain Habitat Assessment and Mitigation](#), Section 5.2).
- Documentation that bank armoring/stabilization follows and documents a standard methodology. A needs and alternatives analysis is essential for these projects.

Documentation that the project is either inherently designed to avoid adverse impacts on floodplain functions or compensatory mitigation is provided so there are no adverse impacts on floodplain functions that support ESA listed species. See below for more information.

- As part of the flood permit, applicant has been notified that their property contains land within the floodplain.
- Prior to permit issuance, the applicant has recorded a notice on the title of the property stating that the property is within the 100-year floodplain.

Minimum Habitat Assessment Standards:

As described below, in addition to customary elements of a project application such as a project description, site plans, and methods of work, the HA must show that the proposal will result in no adverse effects on floodplain functions and/or includes appropriate compensatory mitigation. This checklist is provided to assist the HA reviewer in determining whether an HA is sufficient. The HA document and analysis must include the elements listed below.

- Project and action area description, maps, and site plans have been provided
- Methods of work are described
- The HA specifically considers both direct and indirect impacts. Indirect impacts are a result of an action and can occur later in time or in a different place and are reasonably foreseeable.
- The HA evaluates the impacts of interrelated and interdependent activities.
- The HA specifically considers cumulative impacts of reasonably foreseeable projects beyond the subject proposal/lot for all of the elements of the analysis listed below, especially loss of storage.
- The HA contains sufficient analysis for each specific item below to demonstrate a claim of no adverse effect on the existing condition of the floodplain functions (baseline condition). If an element does not apply to a particular project, the HA should briefly explain why.

The **action area** to be analyzed should typically be well beyond the subject parcel(s) and must consider all areas that could be impacted by the proposal, including indirect effects and the effects of interrelated and interdependent actions, in the vicinity of downstream from the proposal (and only within the SFHA).

An **interrelated action** is part of the proposed action and depends on the proposed action for its justification.

An **interdependent action** has no independent utility apart from the proposed action (USFWS, NMFS 1998).

1. Documentation that water quantity and quality will not be affected by demonstrating that pre-development water pattern will be substantially the same as the post-development water pattern. The following should be included in the analysis:
 - The HA demonstrates how low impact development techniques have been used
 - New impervious surfaces are described and included in the analysis
 - Water temperature impacts from development have been evaluated
 - Potential changes in groundwater and hyporheic functions, pollutants, and sediment runoff have been evaluated
 - Stormwater leaves the site with the same frequency, timing, and duration as before the development
2. Documentation that flood velocities and volumes are not increased, even when considering cumulative impacts.
3. Documentation that flood storage capacity is not affected or compensatory storage has been proposed that:
 - Provides sufficient capacity to hold displaced flood storage volume
 - Restores ground elevations to the pre-existing conditions
 - Maintains floodplain connectivity and fish access (fish will not be stranded or trapped as the floodplain fills and drains)
 - Provides floodplain refugia and habitat for listed fish to the pre-existing condition
 - Is hydrologically connected to the flooding source
 - Is located within the same hydraulic reach as the proposed development to minimize effects on fish populations.
4. Documentation that riparian vegetation has been evaluated
5. Documentation that measures to preserve habitat forming processes (such as large woody debris recruitment) are included
6. Documentation that refuge from higher velocity floodwaters is provided
7. Documentation that spawning substrate is provided or protected
8. Documentation ensuring there are no adverse effects resulting from:
 - Habitat isolation
 - Bank armoring
 - Channel straightening
 - Construction effects (transport of sediment from the work area, noise, etc.)
 - Direct effects

Cumulative impacts are the incremental effect of an action, together with impacts of present and reasonably foreseeable future actions by state, tribal, local, or private entities. Cumulative effects can result from individually minor but collectively significant actions taking place over time.

The **hyporheic** zone is a region beneath and alongside a stream bed, where there is mixing of shallow groundwater and surface water.

Compensatory storage is generally necessary for displaced flood storage volume and loss of accessible floodplain refugia for listed fish when a project includes fill or structural displacement.

A **refugium** (plural: refugia) is a location which supports an isolated or relict population of a once more widespread species.

Substrate: a substance or layer that underlies something, or on which some process occurs, in particular.

- the surface or material on or from which an organism lives, grows, or obtains its nourishment.
- the substance on which an enzyme acts.

Habitat Isolation means the separation of habitat components (such as main channel and off channel habitats)

such that a species can no longer access all of the habitat elements even though they may still be present on the landscape.

Effect Determinations:

Following the evaluation of potential effects, the HA should make a determination that the proposed project will have no adverse effects on listed species or habitat, i.e., activities that will not degrade or limit natural floodplain functions in any way, including the listed species subject to the Biological Opinion on the implementation of the NFIP in Oregon. Natural floodplain functions include all functions associated with the natural undisturbed floodplain that moderate flooding; retain flood waters; reduce erosion and sedimentation; mitigate the effect of waves and storm surges; maintain water quality and recharge of ground water; and provide fish and wildlife habitat. Natural floodplain functions include large wood recruitment and other habitat forming processes. See, e.g., 42 U.S.C. 4121(a)(12).

Proposal is Within the SFHA

If the proposal is within the SFHA the following conditions must be met through the HA analysis.

- All "General BiOp Minimum Standards" have been met.
- All minimum "Habitat Assessment Standards" have been addressed.
- Special Flood Hazard Areas are conveyed to the applicant and marked onsite.
- Creation of new impervious surfaces does not exceed 10% of the portion of the lot in the SFHA unless sufficient mitigation is provided
- New structures are located such that new flood protection or armoring will not be needed
- The proposal will result in an NE or NLAA effects determination for ESA-listed species

Flood zones describe the probability of a flood occurring:

- 100 year = 1% chance in any given year
- 50 year = 2% chance in any given year
- 10-year = 10% chance in any given year

Any property having a 1% or greater chance of flooding is in the high risk floodplain or SFHA

Notes:

For definitions and additional explanation of terms please refer to Floodplain Habitat Assessment and Mitigation Regional Guidance for Oregon, 2018.