

Ramping Up Salmon Recovery Efforts through Floodplain Management

Suggestions for local government on meeting the expectations of the National Flood Insurance Program related to the Endangered Species Act



**Oregon Department of
Land Conservation
and Development**

March 2014



Oregon

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To our Partners in Local Government:

Oregon's land use planning program can only succeed if local government planners have the tools to do the important work of planning our communities, protecting natural resources, and avoiding natural hazards. This guide was written to help you to meet the challenges of participating in the National Flood Insurance Program as the Federal Emergency Management Agency navigates the Endangered Species Act.



This document is not a mandatory rule or regulation adopted by the Land Conservation and Development Commission. We do not set the standards for complying with federal law. Instead, this document offers *suggestions* for beginning to address the interaction of the Endangered Species Act and the National Flood Insurance Program through local floodplain management programs.

Please also know that this document does not stand alone. We encourage you to contact our staff for additional assistance, including seminars and technical assistance for elected officials, citizens, and other interested parties. These are difficult and confusing issues, and we want to help you and your community in any way that we can.

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Funding provided by the Federal Emergency Management Agency (FEMA) through the Community Assistance Program-State Support Services Element (CAP-SSSE).

Disclaimers

- *This document is informational only. It has not been adopted as a rule or policy by the State of Oregon. Nothing in it is a new state mandate for local governments.*
- *This document has not been approved nor endorsed by any federal agency and does not constitute federal guidance or policy.*
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Part 1 - Introduction

This document was prepared by the Oregon Department of Land Conservation and Development (DLCD) to support counties and cities that participate in the National Flood Insurance Program (NFIP) as part of their Goal 7 program for addressing flood hazards. More specifically it addresses participation in the NFIP in the light of the settlement agreement that the Federal Emergency Management Agency (FEMA) entered into with several plaintiffs in 2010. FEMA agreed to meet its obligation under the federal Endangered Species Act and consult with National Marine Fisheries Service about the effect of the NFIP on salmon habitat in Oregon.

This document is not a mandatory rule or regulation adopted by DLCD because DLCD does not set the standards for complying with federal law. Instead, this document offers *suggestions* for how local governments in Oregon can begin to address the interaction of the Endangered Species Act and the National Flood Insurance Program through their local floodplain management programs.

1.1 Recent Court Cases

In July 2010 the FEMA entered a settlement agreement with the Audubon Society of Portland, North West Environmental Defense Center, the National Wildlife Federation, and Association of Northwest Steelheaders under US District Court for the District of Oregon. The plaintiffs argued that the National Flood Insurance Program (NFIP) could affect threatened salmon in Oregon, and therefore FEMA needed to consult with the National Marine Fisheries Service (NMFS) as required by section 7 of the Endangered Species Act (ESA). These events followed a similar decision in 2004 by the US District Court in Washington, which led to a biological opinion by NMFS that development activity in the floodplain, authorized under the NFIP, has resulted in loss of salmon habitat.

In Oregon, consultation between FEMA and NMFS started when NMFS formally accepted FEMA's Program Level Biological Assessment on the NFIP in August 2012. Subsequently, FEMA provided additional details at NMFS request and a revised biological assessment was submitted by FEMA in March 2013. A biological assessment outlines what an agency believes to be the biological consequences of its "action". The proposed action in the assessment is FEMA's modified implementation of the NFIP in Oregon. It focusses on the mapping and management of the Special Flood Hazard Area, which is the area in which FEMA administers the NFIP. [The Program Level Biological Assessment for the NFIP, Oregon State, February, 2013](#), is available on the FEMA's Region 10 website.

NMFS will respond to the biological assessment by issuing a "Biological Opinion" (BiOp) which will provide specific guidance for FEMA on what is required to comply with the ESA.

1.2 What this Means for Local Governments in Oregon

Local governments who participate in the NFIP have two new reasons to assess their responsibilities under the ESA and to evaluate whether their floodplain permit program authorizes activities that could individually or cumulatively violate the ESA.

The first reason is that court findings in Washington and the settlement agreement in Oregon highlight the relationship between development in the floodplain and loss of salmon habitat. In the short term, local governments can take steps to change how they manage their floodplains so that local floodplain development permits are not issued to projects that degrade salmon habitat.

The second reason is that FEMA proposes to address the cumulative impacts of the NFIP by requiring that NFIP communities do a better job complying with the parts of the ESA that apply directly to non-federal entities, specifically sections 9 and 10. Once NMFS has issued its biological opinion, FEMA will issue specific guidance to local governments. FEMA anticipates there will be a 4-year implementation period for NFIP communities to conform to the new guidance. This will likely require additional changes in local floodplain management, but these changes will be easier and less disruptive for local governments that start now to address the connection between floodplain development and the loss of salmon habitat.

1.3 How to Use this Document

The Department of Land Conservation and Development (DLCDD) prepared this document to help local governments face new expectations from FEMA. This document provides information on the ESA and FEMA's approach to meeting its obligations under the act. In the process it reminds local governments of their own obligations to protect salmon from the impacts of development. Information is given with the assumption that NFIP jurisdictions will make their own policy decisions regarding ESA compliance, response to new FEMA guidance and local commitment to preserving salmon habitat

Even if a jurisdiction decides to make no changes to the floodplain permit review process until after the biological opinion is released and FEMA provides additional guidance, now is a good time to start educating decision makers on the issue. Decision makers need to be informed about the ESA and potential liability of issuing local permits for projects that degrade salmon habitat.

- [**Part 2 – The Endangered Species Act and its Impact on the NFIP**](#): Provides general information on the ESA for local government planners who may not be familiar with federal laws and describes the ESA section 7 consultation process specific to the NFIP in Oregon. It outlines what the act requires of FEMA, and what it requires of local governments and individuals. Readers who are already familiar with the ESA may wish to concentrate on the paragraphs marked “What does this mean for NFIP communities?”
- [**Part 3 – Implications for Local Floodplain Permit Programs**](#): Lays out a framework that local governments can use to amend local floodplain management programs to better address potential impacts to salmon. The framework recognizes local government responsibility and risk of liability under the ESA and FEMA's recent interpretation of existing rules that govern participation in the NFIP.
- [**Part 4 – Conditional Letters of Map Revision and Letters of Map Revision**](#): Describes changes FEMA has made to how they evaluate map revisions to include the ESA, and this part describes what FEMA expects local governments to do when they review of Conditional Letters of Map Revision and Letters of Map Revision.

- [Part 5 - Examples](#): Provides examples of review criteria for local floodplain development permits to illustrate the scope of review that could follow from policy decisions that either: focus on impacts from individual permits; or focus on the cumulative impacts of the local floodplain management program.
- [Part 6 – Resources](#): Provides information about how DLCD will help local governments, links to online resources, information on case law, and a glossary.

Although floodplains provide habitat for many species, this document will only address ESA listed salmon and their habitat needs.

Part 2 - The Endangered Species Act and its Impact on the NFIP

2.1 Overview

The ESA was enacted to conserve endangered and threatened species and the ecosystems upon which they depend. The ESA authorizes two federal agencies to list a species as either threatened or endangered. The United State Fish and Wildlife Service (USFWS) has responsibility for all plants, all land animals, and freshwater fish. The National Marine Fisheries Service (NMFS) is responsible for fish that live entirely or partially in the ocean (i.e. salmon). A species is endangered when it is at risk of extinction throughout all or a significant portion of its range. A species is threatened if it is likely to become endangered within the foreseeable future.

The ESA includes several separate requirements that protect, and seek to recover, both threatened and endangered species. It also includes many terms that sound ordinary, but have highly specific meanings. The ESA sections and terms relevant to the consultation and the parts of FEMA's Program Level Biological Assessment relevant to NFIP communities are described below. The ESA can be complicated, and this document does not attempt to cover all of the details. For a list of online resources see [section 6.2](#). For a glossary of terms see [section 6.4](#).

2.2 ESA Section 4 – Listing of Species

In order to protect species at risk of extinction the ESA establishes a process under section 4 whereby species are identified as endangered or threatened. A species listed as endangered is automatically protected under the “take prohibitions” described in section 9 of the act. When a species is listed as threatened, the listing agency is directed under section 4(d) to issue regulations necessary to provide for the conservation of the species. Section 4 also directs the listing agency to designate critical habitat.

Critical habitat is the area essential to the conservation of an endangered or threatened species and that may need special management or protection. Critical habitat designations affect only federal agency actions or federally funded or permitted activities. Generally critical habit is a subset of all of the area used by a species, but it can include areas that are not currently occupied by the species if that area would be essential for recovery. The determination of critical habitat is published in the Federal Register.

▪ What does this mean for NFIP communities?

The consultation currently underway between FEMA and NMFS is regarding populations of salmon and steelhead listed as threatened. When northwest salmon and steelhead populations were listed as threatened, NMFS established 50 C.F.R. §223.203. This rule extends the ESA section 9 take prohibitions for endangered species to these threatened fish populations. The rule describes thirteen exceptions or “limits” to the take prohibition. Knowing the specifics of the 4(d) rule is not essential for an NFIP community; however two 4(d) limits have some relevance:

Limit number 10 for routine road maintenance activities – Oregon Department of Transportation and three local jurisdictions have road maintenance programs approved by NMFS under 4(d) limit 10.

Limit number 12 for municipal, residential, commercial and industrial development and redevelopment (also known as the MRCI limit) – This is a high bar. Despite concerted attempts by a couple of cities, NMFS has not approved any Oregon jurisdiction under the MRCI limit.

NMFS will pay particular attention to critical habitat when they assess the NFIP’s impact on salmon and its potential to cause jeopardy, but recommendations of measures to protect salmon will likely extend to all habitat. Also NFIP communities and other non-federal entities are restricted under the take prohibitions from damaging *any* habitat to a degree that it kills or harms a listed species.

2.3 ESA Section 7 - Federal Actions and Consultation

Section 7(a)(1) directs all Federal agencies to work to conserve endangered and threatened species and to use their authorities to further the purposes of the Act. Federal agencies must consult with the “listing agency” (NMFS or USFWS), under section 7(a)(2) of the ESA, on existing programs or proposed actions that may affect a listed species or its critical habitat. Consultation begins with the “action agency” (the agency proposing the action) submitting a biological assessment of the program or proposed action and any steps that will be taken to reduce the impact. The listing agency then looks at the federal program or action as a whole and considers cumulative effects. In reviewing a biological assessment, the listing agency relies on the recovery plan for the species. There are four recovery plans published by NMFS for salmon and steelhead populations in Oregon. These recovery plans are available online:

http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/recovery_plans_supporting_documents.html

If a proposed action is not likely to move a species closer to extinction, then a “no-jeopardy” biological opinion (BiOp) is issued, giving a green light for the proposed action. NMFS issues a “jeopardy opinion” BiOp when a proposed action is expected to diminish a specie’s numbers, reproduction, or distribution so that the likelihood of survival and recovery in the wild is appreciably reduced. A jeopardy opinion includes “reasonable and prudent alternatives” to minimize harmful effects on the listed species. The action agency is then required to include the reasonable and prudent alternatives when implementing the proposed action. When the “federal action” is issuing a federal permit, the agency must modify its permit review process to meet the terms of the opinion. Incidental take is then covered for both the federal agency issuing the permit and the permittees. If all terms of the permit are met, even if take occurs, there is no violation of the ESA.

▪ What does this mean for NFIP communities?

FEMA’s proposed action is described in Chapter 2 of [The Program Level Biological Assessment for the NFIP, Oregon State, February, 2013](#). FEMA does not issue federal permits, but has other mechanisms through which they implement the NFIP. These will need to be modified to be consistent with the

proposed action and the reasonable and prudent measures within the BiOp in the case of a no-jeopardy opinion, or the reasonable and prudent alternatives in the case of a jeopardy opinion. Even without a direct permit linkage, FEMA would like for the consultation to extend incidental take coverage to local governments and developers who adhere to NFIP standards and FEMA guidance. NMFS, however, has yet to determine the extent of any incidental take authorization that may be issued to FEMA. This is an important issue still to be worked out in the consultation.

2.4 ESA Section 9 – Take Prohibition

Section 9 of the ESA prohibits “take” of any endangered species. This prohibition applies to “any person subject to the jurisdiction of the USA.” The term “person” includes an individual, corporation, or any other private entity; any officer, employee, agent, department of any state, or municipality; and any state, municipality, or political subdivision of a State [16 U.S.C. § 1532(13)]. Thus Section 9 is much broader than Section 7, which only applies to federal agencies.

The term "take" as defined in the ESA means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect a listed species, or to attempt to engage in any such conduct. For marine and anadromous species “harm” is defined by NMFS in 50 C.F.R. 222.102, which states,

Harm in the definition of “take” in the Act means an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering.

Section 9 only applies to endangered species, and does not apply directly to threatened species. However, section 4(d) of the ESA authorizes NMFS or USFWS to issue regulations necessary to provide for the conservation of threatened species including extending the section 9 take prohibition to the species. NMFS has adopted a “4(d) rule” for threatened species of salmon and steelhead [50 C.F.R. § 223.203(a)]. (See, [A Citizens Guide to the 4\(d\) rule for Salmon and Steelhead on the West Coast](#))

Courts have found state and local government officials in violation of ESA take prohibitions for a listed species when a permit issued by an official was required to conduct an activity and that activity resulted in take [See, Laschever, Eric S; The Endangered Species Act and Its Role in Land Use Planning; *Seattle Journal of Environmental Law*; Vol. 1:103 2011]. Actions of state and local governments, including issuing permits, have been enjoined by courts when it has been determined that the action is “reasonably certain” to result in take.

In the Citizen’s Guide to the 4(d) Rule for Threatened Salmon and Steelhead on the West Coast , NMFS recommends the following steps to avoid unauthorized take,

1. Identify the program or activity (for state and local governments, this may include activities it funds, authorizes, or carries out);
2. Evaluate whether the program or activity is likely to take or harm listed fish;
3. If the program or activity is not likely to take or harm listed fish, then there is no need to modify the activity, or to contact NMFS;

4. If, however, after reviewing the program or activity, it seems likely it will take or harm listed fish, or there is uncertainty about whether take or harm may occur, the acting agency, entity, or individual should contact NMFS to seek more information on evaluating the activity's impacts and determining ways to avoid harming the fish and violating the ESA.

■ **What does this mean for NFIP communities?**

FEMA's proposed action describes how they intend to comply with section 7 and protect salmon and their habitat. [[Program Level Biological Assessment for the NFIP - Oregon, February 2013](#)] FEMA explains that they will ensure that local governments do a better job of complying with sections 9 and 10 of the ESA. FEMA believes they can rely on current NFIP rules to provide this oversight. Minimum standards for participation in the NFIP are set out in the Code of Federal Regulations (CFR). One of the requirements, 44 CFR Part 60.3.a.2, states that communities shall,

Review proposed development to assure that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334;

FEMA's proposed action states,

FEMA reviewed the language in the regulations and researched background documents on the development of that paragraph in the regulation. FEMA then evaluated our internal guidance documents for monitoring a community's compliance with the program. Upon completion of that review, FEMA determined that our monitoring program for compliance with 44 CFR Part 60.3.a.2 was being applied too narrowly by communities. [Program Level Biological Assessment, page 2-40]

In other words, FEMA proposes to look at the review criteria applied by local governments when a floodplain development permit was issued and evaluate whether the need for an ESA section 10 incidental take permit was correctly assessed. The proposed action explains,

The intent of Part 60.3.a.2 is to ensure that all necessary federal agency permits are obtained before issuance of the floodplain development permit. If the potential for a "take" exists, as defined by the ESA, then everyone (individuals, communities, agencies, etc.) is prohibited from taking that action under Section 9 of the Endangered Species Act. However, Section 10.b.2 of the ESA authorizes the USFWS and NMFS to issue a permit for a "take," under certain conditions should one be requested. Development and approval of an HCP is the typical mechanism for requesting a Section 10 permit. Therefore, if the potential of a "take" exists for a proposed development permit within the SFHA, the community has a requirement under Part 60.3.a.2 to ensure the ESA "permit for a take" has been obtained from NMFS. FEMA also considers any Incidental Take Statement issued to federal agencies under Section 7 of the ESA to meet the requirement and intent of Part 60.3.a.2.

FEMA's new interpretation of 44 CFR 60.3.a.2 applies a threshold of "potential for take," meaning that any disturbance or loss of floodplain habitat functions has the potential to cause fish harm, therefore these types of actions are not allowed under FEMA's interpretation of their rules without a take authorization from NMFS. Take authorization can be obtained through a section 10 incidental take permit, or an incidental take statement if available through another federal nexus to the project.

(Although not listed by FEMA, compliance with the ESA can also be confirmed when an action falls within a limit to the take prohibition described in the 4(d) rule adopted by NMFS to protect listed salmonids. See [section 2.1](#) of this document.) FEMA will continue to use Community Assistance Visits (CAVs) as their opportunity to evaluate a jurisdiction's compliance with this new interpretation of NFIP minimum standards.

2.5 ESA Section 10 - Incidental Take Permit

Section 10 of the ESA provides exceptions to the take prohibition in section 9. A listing agency can issue a permit for take that is incidental to, and not the purpose of, carrying out of an otherwise lawful activity. These "incidental take permits" can only be issued as part of an approved habitat conservation plan which minimizes the potential for take and includes habitat restoration or other positive actions such that there is a net benefit to the listed species. USFWS, the service responsible for species that do not spend all or part of their life in the ocean, has published fact sheets and guidance documents on HCPs. This information also applies to species that are listed as threatened or endangered by NMFS. See the USFWS website for more information.

<http://www.fws.gov/endangered/what-we-do/hcp-overview.html>

■ What does this mean for NFIP communities?

Section 10 does not clearly state when a permit is required, and there are several different thresholds that could be used. Case law points to "reasonable certainty" as a threshold. In the [Citizen's Guide to the 4\(d\) Rule](#), NMFS uses a threshold of "likely to take or harm" stating that, "If the program or activity is not likely to take or harm listed fish, then there is no need to modify the activity, or to contact NMFS." FEMA proposes a threshold of "potential for take" and concludes that, "If the potential of a 'take' exists . . . the community has a requirement . . . to ensure the ESA 'permit for a 'take' has been obtained from NMFS." Section 10 incidental take permits are extremely difficult to obtain from NMFS. Application to NMFS for activities typically covered by local floodplain development permits is largely uncharted, and it is unlikely that an NFIP jurisdiction or developer will chose to pursue this option in order to achieve a 100% guarantee against unauthorized take.

2.6 Using Existing Take Authorizations

FEMA recommends that local governments use existing take authorizations when available to document compliance with 44 CFR Part 60.3.a.2.

■ Authorizations available through other federal agencies

The Army Corps of Engineers issues permits for work in waters of the nation, so is often involved with projects in and near salmon habitat. Other federal permits or federal funding for a project may also result in take authorization or a determination by NMFS that salmon will not be adversely affected. A federal agency documents meeting its obligation to consult with one of the Services (NMFS or USFWS), in a variety of ways:

“No effect” determination - If the action agency determines that their action will have “no effect” on listed species or critical habitat, they document that determination but do not consult with the Services.

“Not likely to adversely affect” determination - An informal consultation concludes with listing agency concurring that the action is “not likely to adversely affect” listed species or critical habitat. This typically is documented in a letter that the Service sends to the action agency.

Incidental take statement - A formal consultation concludes with the listing agency issuing a biological opinion, which includes an “incidental take statement” and terms and conditions that must be implemented. In Oregon, action agencies and the Services use both individual consultations (i.e., project-specific) and programmatic consultations (i.e., multiple actions on a program, regional or other basis).

When a local government is considering whether a locally permitted action has take authorization through a federal nexus, it is important to review the documentation for the authorization to ensure that it covers the entire scope of floodplain modifications. If an existing take authorization covers only part of a project needing a local floodplain development permit, FEMA expects the local permitting authority to assess the remaining part of the project for compliance with 44 CFR Part 60.3.a.2 and the ESA. It is common, for example, for the Army Corps to only review and issue a permit for portions of a project that take place below the ordinary high water line, even if the application describes the scope of the entire project.

▪ **Authorizations available to non-federal entities**

Incidental take permits – It is possible for a private entity to obtain an incidental take permit for a large program or project. If such a program or project needed a floodplain development permit, the locally permitted action could be covered for take under the larger action. Obtaining an incidental take permit from NMFS is a difficult undertaking and requires the drafting and approval of a habitat conservation plan (HCP). A few private, state, and local entities have applied to NMFS under section 10 of the ESA to obtain incidental take coverage for operations such as large scale timber harvest and drinking water source management. NMFS has approved about a dozen HCPs in Washington and one HCP in Oregon, which are available on their website.

http://www.westcoast.fisheries.noaa.gov/habitat/conservation_plans/habitat_conservation_plans_%20on%20the_wc.html

4(d) Rule limits on prohibitions – Approval under a 4(d) limit is not technically a take authorization, rather it is a way to avoid application of the take prohibition. Portland, Marion County, Washington County and ODOT have had road maintenance programs approved by NMFS under 4(d) limit 10.

2.7 “No Adverse Effect” and “No Net Loss” in the Special Flood Hazard Area

In the propose action FEMA explains their intent to apply a no adverse impact standard in the portion of the Special Flood Hazard Area (SFHA), often called the “100-year floodplain”, that is closely connected to salmon habitat. A no net loss standard would apply in the in the rest of the SFHA.

The threshold of “adverse effect” is applied by federal agencies in implementing section 9 of the ESA. It is used when determining a need for a federal agency to enter into consultation with the listing agency. There is no definition of adverse effects in the ESA. In practice an action warrants a “may affect, not likely to be adversely affected” finding when its effects are wholly beneficial, insignificant or discountable. The ESA does not use the term “no net loss”. The concept is most familiar in federal environmental law that applies to wetland protection. As used by FEMA it means that any negative impact to floodplain functions would require mitigation through restoration or enhancement.

▪ What does this mean for NFIP communities?

It is not known which details of the proposed action will remain intact through the consultation process, but parts of the proposed action quoted here give an idea of the kind of development review that will likely be expected of NFIP communities. The proposed action identifies areas of the SFHA within the floodway and 170 feet of ordinary high water, or mean higher high water in tidally influenced areas, as areas subject to a no adverse effect review standard.

The following is an excerpt from the proposed action:

In order to better implement existing regulation, all participating Oregon communities with listed species and critical habitat present within the floodplain will update existing ordinances or enforceable procedures so that the following performance measures are incorporated:

1. *All new development, and substantial improvements, as defined by the NFIP, will not adversely affect listed species or critical habitat within any designated floodway or Riparian Buffer Zone (RBZ) [as defined in paragraph 2, below]. The only adverse effects allowed are those developments with short term impacts associated with: (1) functionally dependent uses, (2) habitat restoration activities, or (3) activities that result in a beneficial gain for the species or habitat. All short term adverse effects associated with functionally dependent uses will be avoided, minimized, or rectified so that the long-term outcome will be neutral or beneficial for ESA-listed species and their critical habitats.*
2. *The RBZ is measured from the ordinary high water (OHW) of a freshwater body of water (lakes, ponds, ephemeral, intermittent or perennial [streams]) or mean higher high water line (MHHW) of a marine shoreline or tidally influenced river reaches to 170 feet horizontally from the water body (170 feet from the bank on both sides of streams). For incorporated cities and designated urban unincorporated communities outside the urban growth boundary, the types of development in the RBZ can be modified to account for the “built out” environment by complying with either A or B:*
 - A. *Conducting a programmatic habitat assessment that is scientifically based (Best Available Science (BAS)), and demonstrates that the modified RBZ will result in an*

improved overall conservation, protection, and appropriate restoration of riparian habitat within the spatial scale of the assessment

- 1) The assessment can be conducted for the whole community;*
- 2) The assessment can be conducted on individual urban watershed or subwatersheds while maintaining the standards in Performance Measure 1 for the non-assessed areas of the community;*
- 3) As a minimum, modification of the RBZ shall not be allowed within 50 feet of OHW or MHHW.*

B. Adhering to the criteria and standards for allowing site specific development modifications within the RBZ as described in Appendix E.

- 3. For development outside the Floodway or RBZ but in the SFHA, all adverse effects on existing floodplain functions that support fish and their habitat will be mitigated so that no net loss or a net beneficial gain is achieved.*

These requirements do not apply to any improvements or repairs to existing structures, including utilities, which do not exceed a 10 percent increase of a structure's existing footprint. Additionally, any development proposal that has received prior approval through an ESA Section 4d, 7, or 10 process will be considered by FEMA to be consistent with this programmatic action, and the proposal deemed compliant for purposes of abidance with 44 CFR Part 60.3.a.2 if:

- A. All elements of the proposed development in the floodplain were addressed in the previously approved ESA process, including all interrelated and interdependent actions; and*
- B. No new information has been revealed subsequent to that approval to cause a change in the effects of the proposed development (e.g. a listing of new species or critical habitat, new data previously not available, substantial changes in the landscapes)*

[\(Program Level Biological Assessment for the NFIP, Oregon February 2013 pgs. 2.41-2.42\)](#)

Note: The proposed action references critical habitat because the identification and preservation of critical habitat is important to the conservation of a species. In a section 7 consultation FEMA and NMFS must consider critical habitat. FEMA's current interpretation of 44 CFR Part 60.3.a.2, however, engages the ESA through section 9 and 10. The ESA section 9 take prohibition does not focus on critical habitat in the same way as section 7. Harm to a listed species can result from loss of any habitat utilized by the species, so it's not clear what role critical habitat should play in a NFIP community's response to FEMA's new expectations.

2.8 Challenges for NFIP Communities

Questions regarding the structure of FEMA's proposed action, the interplay between ESA sections 7, 9 and 10, and the details of specific FEMA-generated permit review standards are best set aside until release of the NMFS BiOp. In the meantime NFIP communities need to respond to FEMA's current interpretation of 44CFR Part 60.3.a.2, because at the next Community Assistance Visit they may be

expected to demonstrate to FEMA that floodplain development permits were only issued to projects not likely to result in take or for which take authorization had been obtained. The absence of definitive standards for avoiding take is not a reason to ignore FEMA's expectation. The connection FEMA has made between of 44CFR Part 60.3.a.2 and ESA compliance is a significant change in the agency's implementation of the NFIP. For some jurisdictions a response to this change will be to apply additional review criteria to most, if not all, floodplain permits. Other jurisdictions may decide that their permit review process already includes sufficient water quality and habitat based review criteria. "Sufficient" means that a jurisdiction will be able to provide a thoughtful response when asked to explain how their program avoids direct violations of the ESA section 9 take prohibition. It is important to remember that, when clear objective standards cannot be devised to separate projects that risk take from those that don't, a jurisdiction and applicant may need to rely on a biological assessment prepared by a qualified professional. Such an evaluation will require putting the application through a discretionary review process.

Part 3 - Implications for Local Floodplain Permit Programs

3.1 Impact of Local Permits on Salmon and Risk of Take

After reviewing the Endangered Species Act (ESA) and considering the Federal Emergency Management Agencies' (FEMA's) new approach to implementing the National Flood Insurance Program (NFIP) a jurisdiction may decide that changes to its floodplain permitting review criteria are needed. *This document cannot set or recommend thresholds for avoiding take or determining when an ESA section 10 incidental take permit is required.* Rather, a jurisdiction will need to know where it stands with respect to concerns over ESA take liability. This knowledge alongside federal guidance for complying with the ESA will inform a path forward. This section proposes a supporting framework for implementing local policies regarding floodplain development permits and the ESA. Information is provided with an assumption that the reader is motivated to evaluate floodplain development permit criteria in response to FEMA's new expectation of NFIP communities.

A jurisdiction should consider both the potential impacts of each permit approval and the potential cumulative impact of the local permit program when formulating a local ESA policy.

In general there are two ways that a development project outside a stream bed can result in take: 1) direct harm to fish such as creating a situation where a fish is trapped or injured during a flood event; or 2) impact to salmon habitat to a degree that a listed species cannot do what it needs to do to survive and reproduce. A permit program, over time, can be detrimental to fish when small impacts have the cumulative effect of damaging habitat or making things more challenging for fish during a flood event. Remember, development activities that take place below ordinary high water (OHW) generally require a Corps permit. The potential for take due to an activity permitted by the Army Corps of Engineers (Corps) will be reviewed by the Corps and impacts below OHW will be covered by an ESA take authorization if needed (see [section 2.6](#)). As a result, this section focuses on review of activities in the Special Flood Hazard Area that take place above OHW.

To figure out what actions on the floodplain above ordinary high water could result in damage to habitat sufficient to harm a fish, it is helpful to consider the habitat components that support fish throughout their life stages. National Marine Fisheries Service (NMFS) has described these components for critical habitat in 50 C.F.R. § 226.212 (c) (see - <http://www.gpo.gov/fdsys/pkg/CFR-2011-title50-vol9/pdf/CFR-2011-title50-vol9-sec226-212.pdf>). The “primary constituent elements of critical habitat” can be used to identify the important components of *all* salmon habitat. Table 3.1 lists several of the primary constituent elements of critical habitat identified by NMFS and describes how these features can be impacted by development in the floodplain.

Table 3.1 Mechanisms by which development activity on a floodplain may cause damage to salmon habitat

Physical Habitat

MECHANISM - The primary constituent elements of salmon habitat that are most directly susceptible to development are:

- Freshwater spawning sites (e.g., siltation can cause loss of substrate conditions that support spawning, incubation, and larval development)
 - Floodplain connectivity (e.g., Hardening of banks, placement of fill, preventing lateral channel movement, and grading activities can reduce access to floodplain habitat)
 - Forage provided by overhanging vegetation and associated insects (e.g., Removal of vegetation can cause loss of forage.)
 - Natural cover provided shade, overhanging large wood and undercut banks (e.g., Removal of vegetation can result in loss of shade cover, overhanging wood and bank stability.)
 - Freshwater rearing sites to the extent they are supported by forage and natural cover
 - Freshwater migration corridors to the extent they are supported by natural cover
 - Estuarine areas to the extent they are supported by forage and natural cover
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Water Quality

MECHANISM - The primary constituent elements of salmon habitat that are most directly susceptible to development are:

- Freshwater spawning sites (e.g., High temperatures, and low oxygen levels are detrimental to incubation and larval development. Siltation can further depress oxygen levels in the spawning gravels. Toxics such as heavy metals and pesticides can impede normal development.)
 - Freshwater rearing sites (e.g., Temperature and oxygen levels within the correct range promote fish growth and development and support the populations of macroinvertebrates on which juvenile fish feed. Toxics such as heavy metals, hydrocarbons and pesticides can alter fish behavior.)
 - Freshwater Migration corridors (e.g., Good water quality is needed to support salmon until they migrate to the ocean and when they return to spawn, areas of low water quality are avoided by fish and may result in fish leaving freshwater environments before they are ready. Toxics such as heavy metals, hydrocarbons and pesticides can depress predator avoidance behavior.)
 - Estuarine areas (Good water quality and low salinity levels support juvenile and adult physiological transitions between fresh and salt water).
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Hydrology

MECHANISM - The primary constituent elements of salmon habitat that are most directly susceptible to changes in hydrology as a result of development are:

- Freshwater spawning sites (e.g., Increases in flow volumes can scour spawning gravels, decreases in flows can result in elevated water temperatures and loss of spawning sites.)
- Freshwater rearing sites – (e.g., Increases in flow volumes can flush macroinvertebrates from a stream reach and can hasten the migration of juvenile fish so that they are less developed when they reach the ocean.)
- Floodplain connectivity (e.g., Hardening of banks, fill, and grading activity can reduce access to slack water refuge areas at times of floods and simplify in-channel habitat. Fill in the floodplain can alter stream velocities beyond that which fish can comfortably inhabit.)
- Freshwater migration corridors (e.g., Poorly designed culverts and ditches can block migration corridors or result in fish being trapped as water levels rise and recede. Fill in the floodplain can increase in velocities in the floodway causing fish to expend more energy or be forced down stream.)

- Estuarine areas (e.g., Salinity levels that support juvenile and adult physiological transitions between fresh and salt water can be altered with tide gates and other engineered strategies for controlling flood waters and tide surges.)
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3.2 Local Policy on Salmon Protection and Recovery

Local permit review to determine the need for take authorization would be easy if it were possible to point to clear threshold in the ESA for when non-federal actions require an incidental take permit. But such a threshold does not exist given the way the ESA oversight and enforcement is structured. In the absence of a clear federal threshold, each jurisdiction needs to make its own policy decision and state its interest and intent with respect to the ESA. This will establish a basis for applying an ESA review and potential denial of an application. As with the rest of this document, the focus here is on development in the Special Flood Hazard Area.

The following are examples of policy choices. One focusses on impacts to salmon and the ESA take prohibition on a project by project basis. The other considers the cumulative impacts of projects that are permitted over time:

Take Avoidance Threshold – To meet [Jurisdiction’s] responsibility under the Endangered Species Act a permit will not be issued for an activity in a floodplain that is likely to result in “take” as defined by the ESA, unless that activity has prior federal authorization for incidental take. In the absence of a federal determination, [Jurisdiction] is obliged to set its own threshold. Review criteria to identify projects that are likely to result in take will be applied to all projects that will place fill, disturb vegetation or soil, or increase impervious surfaces within [----- feet] of a stream, in the Special Flood Hazard Area (Consider whether to include all streams or to specify size threshold or fish bearing). In most cases it is expected that, through application of appropriate management practices, take will be an unlikely result of a project so that a permit can be issued.

Cumulative Impact Avoidance Threshold – It is the policy of [Jurisdiction] to exercise its permit authority in a manner that supports the physical and chemical characteristics of salmon habitat. Review criteria designed to preclude negative impacts to floodplain functions that support salmon habitat will be applied to permit applications for projects that will place fill, disturb vegetation or soil, or increase impervious surfaces [within ----- feet of a stream, in the Special Flood Hazard Area (Consider whether to include all streams or to specify size threshold or fish bearing)]

Once a jurisdiction settles on a policy that articulates its position and responsibility under the ESA it can evaluate its floodplain development permit program for consistency with the policy.

3.3 Building a Local ESA Floodplain Development Review Process

Some Oregon cities and counties already have in place permit review criteria that are considerate of ESA listed salmon species, but many do not. For jurisdictions interested in adding ESA relevant review criteria Table 3.2 illustrates an approach for sorting permit applications by their potential to harm salmon. The three tiered approach described here is one way to focus additional review where it is most needed to

protect salmon and avoid ESA liability for the jurisdiction. A tiered approach can also help distinguish between applications to which clear and objective standards can be applied and those which need a discretionary review.

Tier 1 includes projects with characteristics that indicate an “unacceptable risk” of directly harming a salmon or resulting in significant habitat degradation that kills or injures fish. High risk projects might present liability concern for the local government since permitting agents and permitting authorities can be held responsible for take that results from a permitted action. Until FEMA implements changes required by the final biological opinion, unacceptable risk will be a threshold decided by each jurisdiction. Projects with Tier 1 characteristics may warrant deferral to NMFS for a determination of compliance with the ESA. Tier 2 includes projects with characteristics that indicate the need for careful review to ensure the project will be conducted in a manner that meets the policy objective of the jurisdiction. Tier 3 includes projects that do not need additional review or can meet clear and objective standards designed to ensure minimal impact.

The descriptions of project characteristics in Table 3.2 are suggestions and are not very specific. They are intended to illustrate a starting point for justifying specific local review criteria. Each column approaches the problem from a different policy perspective.

Table 3.2 *Illustration of a three tier approach to permit review acknowledging a spectrum of impact and risk of take associated with project characteristics*

	Take Avoidance	Cumulative Impact Avoidance
Tier 1	<p><i>High or unacceptable risk of take</i></p> <p><i>For example</i> Development in the floodway except for: Maintenance; building improvements that do not increase the footprint of a structure; Repaving of existing impervious surfaces</p> <p>Alteration of areas with high connectivity to instream habitat that offer off channel refuge</p> <p>Removal of vegetation directly adjacent to a salmon bearing stream that contributes to bank stability or provides cover for fish</p> <p>Removal of large areas from the floodplain by placement of fill or levees</p> <p>Large developments in the floodplain with no measures to avoid short term and long term degradation of water quality</p>	<p><i>High or unacceptable habitat loss due to cumulative impacts</i></p> <p><i>For example</i> Development in the floodway except for: Maintenance; building improvements that do not increase the footprint of a structure; Repaving of existing impervious surfaces</p> <p>Alteration of areas with high connectivity to instream habitat that offer off channel refuge</p> <p>Removal of vegetation, within 170’ of OHW or mean higher high water in estuaries (From FEMA’s Proposed Action) with no mitigation</p> <p>Increases in stormwater pollutants and volume that could contribute to degraded water quality or channel scouring</p> <p>Placement of fill that would contribute to loss of floodplain area and flood storage capacity</p>

	Take Avoidance	Cumulative Impact Avoidance
Tier 2	<p><i>Low or acceptable risk of take</i></p> <p><i>For example</i> New development in the flood fringe that is unlikely to harm fish, but could have some impact on instream habitat</p> <p>Placement of fill in the flood fringe</p>	<p><i>Low or acceptable habitat loss due to cumulative impacts</i></p> <p><i>For example</i> New development in the flood fringe for which mitigation is provided to offset any long term impacts to water quality and flood storage</p> <p>Removal of trees within 170' of the OHW or one potential tree height of a stream for which the impact to potential shade and large wood recruitment is mitigated</p>
Tier 3	<p><i>No or negligible risk of take</i></p> <p>Development in the flood fringe that is not described under Tiers 1 or 2 and meets clear and objective standards designed to avoid take</p>	<p><i>No cumulative impacts</i></p> <p>Development in the flood fringe that is not described under Tiers 1 or 2 and meets clear and objective standards designed to avoid cumulative impacts to salmon habitat</p>

3.4 Code Amendments and Implications of Referral to NMFS

Jurisdictions will want to identify the steps needed to implement new review criteria or new conditions of approval. There may be room under an existing local review criterion to do a more thorough job of evaluating the take implications of a proposed development project. But it is also possible that code amendments will be unavoidable if the desired review standards are to be implemented.

- **Code amendments and Goal 5**

Land Use Goal 5 and the Oregon Administrative Rules for complying with Goal 5 will need to be met when the intent of a code amendment is to protect salmon habitat. DLCD anticipates that the economic, social and environmental factors inherent in protecting salmon will support a decision to limit conflicting uses in the floodplain. These factors include avoiding take of a federally listed species and continued participation in the NFIP.

- **Clear-and-objective and discretionary standards**

Clear and objective standards that protect floodplain habitat functions tend to be very restrictive, e.g. wide riparian setbacks, low tolerance for fill or vegetation removal. Discretionary standards may be needed if a jurisdiction wants to provide land owners with a variety of habitat avoidance, mitigation and enhancement options.

■ Unacceptable risk and referral to NMFS

When a jurisdiction begins to review permit applications to identify those which pose a risk of take it is possible that there will be projects that exceed a jurisdiction threshold for acceptable risk. An example of a project that could elicit significant concern is one that involves removing a swath of trees and other vegetation adjacent to a salmon bearing stream. Vegetation that overhangs a stream and roots that support stream banks are an important attribute of a healthy stream. Their removal may leave fish more exposed to predators. However, impacts along a small stretch of stream do not approach the scale of a project for which a habitat conservation plan (HCP) is typically developed or approved.

Two avenues are available for the applicant when a local government is unwilling to issue a floodplain development permit without proof of ESA compliance: documenting compliance through an existing take authorization or 4(d) limit (see [Section 2.6](#)); or obtaining a new section 10 incidental take permit from NMFS. Documenting existing take authorization is relatively easy. If, however, the only path to ESA take authorization is through a new section 10 incidental take permit, it will be difficult or impossible for the applicant to meet the local permit condition. A local jurisdiction that places this condition on an applicant for a floodplain development permit will want to support the condition of approval with solid findings.

From a practical perspective, when faced with the prospect of applying for a section 10 incidental take permit, it will be advantageous for an applicant to reduce the risk of take by re-designing a project to preserve floodplain features that directly support salmon habitat.

3.5 Existing Water Quality Laws that Contribute to Salmon Protection

Under the Clean Water Act, water quality is broadly defined to include the chemical and physical constituents and parameters of water bodies that are necessary to support the multitude of uses and users of the water (beneficial uses). To protect water quality, the Oregon Department of Environmental Quality (ODEQ) establishes water quality standards for a water body based upon the beneficial uses identified for that water body. When more than one beneficial use exists, the standards for each constituent/pollutant are set to support the use that is most sensitive to that particular constituent/pollutant. In most Oregon streams and lakes, fish habitat is identified as the most sensitive use. More information about water quality standards and beneficial uses for specific water bodies can be found on ODEQ's website:

<http://www.oregon.gov/DEQ/wq/Pages/index.aspx>.

ODEQ's Water Quality Program provides an existing regulatory structure that reduces impacts to salmon habitat from development activities and post construction stormwater. National Pollutant Discharge Elimination System (NPDES) permits, issued in Oregon by ODEQ, are required for storm water discharges to surface waters from construction sites over a certain size, industrial sites, and some municipal storm sewer systems. NPDES permits issued to local jurisdictions to cover stormwater discharges are called MS4 permits. More information about ODEQ's stormwater permitting program is available online:

<http://www.deq.state.or.us/wq/stormwater/stormwater.htm>

Many Oregon cities, counties, and industrial dischargers already have permits from ODEQ. These permits allow discharge of stormwater runoff into receiving waters, provided certain stormwater management practices are employed. Permits incorporate the statewide standards and practices for water quality protection, and specific requirements related to plans that may be in effect to restore water quality in a stream that is currently not meeting state water quality standards.

For jurisdictions with an MS4 permit, potential impact to salmon habitat from stormwater may be addressed for new development in the floodplain through implementation of the existing local stormwater program. The degree to which this is true will depend on the specifics of the local program.

For jurisdictions not subject to ODEQ MS4 stormwater permit requirements, the standards and requirements included in the stormwater permits of other jurisdictions are a good place to start when considering adoption of local stormwater management standards. Permits for jurisdictions in the same watershed or that address similar beneficial uses will be most relevant. Information about MS4 stormwater permits is available on ODEQ's web site:

<http://www.deq.state.or.us/wq/stormwater/municipalph1.htm>

For metropolitan areas with populations exceeding 100,000; e.g. Portland Metro Area, Eugene/Springfield area, and Salem area

<http://www.deq.state.or.us/wq/stormwater/municipalph2.htm>

For metropolitan areas with populations between 50,000 and 100,000; e.g. Bend, Medford, Albany/Corvallis

ODEQ also requires an NPDES "1200-C" permit for construction sites larger than one acre, and smaller sites if part of a "common plan of development or sale" disturbing one or more acres. The permit requires that erosion prevention and sediment control measures be used to keep dirt from leaving the construction site and entering surface waters. The 1200-C permit also requires measures to prevent chemicals, including gasoline and oil, from being discharged on the ground. In most areas of the state ODEQ administers the 1200-C permit program directly. Jurisdictions with MS4 stormwater permits are required to regulate erosion and sediment control for disturbance less than one acre and may choose to assume responsibility for issuing the ODEQ 1200-C permit as part of their overall stormwater program. More information about the 1200-C permit program is available online:

<http://www.deq.state.or.us/wq/stormwater/constappl.htm>

Some jurisdictions have been given pollutant load allocations under a Total Maximum Daily Load (TMDL) Implementation Plan developed by ODEQ. Local measures to meet load allocations that are recognized by ODEQ will also reduce impacts to salmon habitat. Where these measures apply to floodplain development proposals, a jurisdiction may want to include them in a strategy to ensure that permitted activity will be unlikely to result in take.

Because ODEQ assumed responsibility for administering these parts of the federal Clean Water Act prior to the ESA salmon listings, DEQ permits and TMDL implementation plans have not gone through ESA section 7 consultation and do not have take authorization from NMFS.

3.6 Putting it all Together - Examples of Permit Review Criteria

As explained earlier, the avenues available for a local government to *guarantee* their actions will not expose them to risk of liability under the ESA are few and difficult to pursue. A narrow scope of activities can be covered by existing take authorizations or approved 4(d) Rule limits. These authorizations and limits should be used whenever possible. In the absence of a guarantee, it is still possible to keep the risk of liability low. In publishing this document DLCD is not setting or suggesting standards for complying with the ESA or 44 CFR Part 60.3.a.2. However, to illustrate what it might look like to have local permit review process that preserves the important salmon habitat elements of a floodplain, two examples are included in sections 5.1 and 5.2. These examples were developed using the three tier approach to identifying risk of take described in [section 3.3](#). They build from what we know to be the features of instream and riparian systems that are important to salmon ([section 3.1](#)).

Most jurisdictions will find they have existing codes that address some of the potential impacts development in the floodplain can have on salmon; a riparian protection code or an erosion prevention and sediment control code, for example. A few jurisdictions may have permit review criteria similar to those described in the “take avoidance” approach in section [5.1](#). The example in section [5.2](#) will not look familiar. It represents an attempt to avoid all potential adverse impact from the cumulative effects of a permit program, which is a high bar to meet. Both examples include discretionary review criteria. When discretionary review standards are applied to an application, a habitat impact assessment will be needed. The responsibility for assessing the impacts of a project can be placed on an applicant, by making the habitat assessment a requirement for application. If a jurisdiction does not have the expertise to evaluate a habitat impact assessment it is reasonable to require that the assessment be completed by a qualified biologist. A jurisdiction will need to define the experience or education sufficient for qualification. FEMA has accepted this approach in the Puget Sound area and when processing requests for Conditional Letters of Map Revision ([See Part 4](#)). [Section 5.3](#) is a checklist for habitat impact assessment drawn from FEMA correspondence.

Part 4 - Conditional Letters of Map Revision and Letters of Map Revision

Part of Federal Emergency Management Agency's (FEMA's) commitment to implement the National Flood Insurance Program (NFIP) in a manner that supports salmon involves processing flood map revisions. A prevalent hazard mitigation strategy has been to remove areas from the Special Flood Hazard Area by placing fill to elevate building sites above the base flood elevation and building dikes and levees to isolate sites from flood waters. However, by preventing these areas from flooding, functional habitat elements of the floodplain are destroyed. In August of 2010 FEMA added Endangered Species Act (ESA) review requirements for all Letter of Map Revisions (LOMR) and Conditional Letter of Map Revisions (CLOMR) applications with distribution of "[Procedure Memorandum 64](#)" (available online in FEMA's guidance library at <http://www.fema.gov/media-library/assets/documents/34953>).

FEMA sees their responsibility under the ESA when issuing Conditional Letters of Map Change, including CLOMRs, CLOMRs based on Fill (CLOMR-F) and Conditional Letters of Map Amendments (CLOMA) differently than their responsibility when issuing LOMRs. FEMA has influence over the outcome when reviewing applications for Conditional Letters of Map Change because the projects have yet to be built, whereas LOMR applications are for finished projects. FEMA's criteria for CLOMR and CLOMR-F ESA review are essentially the same as those they expect to be applied by a local government when issuing a floodplain development permit. FEMA looks to an individual's obligation under section 9 of the ESA as a means of ensuring that map revisions are compliant with the ESA. Memorandum 64 states:

Section 9 of the ESA prohibits anyone from "taking" or "harming" endangered wildlife and similar prohibitions are generally extended through regulations for threatened wildlife. If an action might harm a threatened or endangered species, an incidental take authorization is required from the Services under Sections 7 or 10 of the ESA.

The memo also states:

The CLOMR-F or CLOMR request will be processed by FEMA only after FEMA receives documentation from the requestor that demonstrates compliance with the ESA. The requestor must demonstrate ESA compliance by submitting to FEMA either an Incidental Take Permit, Incidental Take Statement, "not likely to adversely affect" determination from the Services or an official letter from the Services concurring that the project has "No Effect" on listed species or critical habitat.

It should be noted that the National Marine Fisheries Service does not issue letters concurring that a project has "no effect". Through an informal section 7 consultation, the listing agency can concur in writing with a determination by an action agency that a project "may affect but is not likely to adversely affect" a listed species (see [section 2.6](#)). In the absence of confirmation from NMFS that the project meets ESA requirements, FEMA will accept a statement that listed species will not suffer any adverse effect from the project. The statement from the applicant should be organized around the following 6 points:

1. Description of action
2. Description of area to be impacted by the action

3. Description of species or critical habitat to be effected
4. Description of the manner in which the action may affect the species or critical habitat and an analysis of the effects
5. Any available reports including: environmental impact statement, environmental assessment, or biological assessment
6. Any other available information on the action's effect on species or habitat

FEMA review of applications for a Conditional Map Amendment is much more immediate and direct than that applied to local permit approvals. FEMA will reject an application if the applicant fails to show no adverse impact to fish or critical habitat; or provide confirmation that incidental take authorization has been obtained. FEMA's focus on impact to critical habitat, rather than all habitat utilized by listed salmon species, reflects their obligation as a federal agency to avoid jeopardy and a heightened concern for habitat that has been identified as critical for the continued survival and recovery of the species. [Section 5.3](#) describes a structure for drafting a statement of no adverse effect that was gleaned from FEMA's reply to a statement that was determined to be inadequately supported.

FEMA also looks to the local government issuing a floodplain development permit associated with a CLOMR or LOMR request for confirmation of ESA compliance. Applicants for a LOMR or CLOMR must attach a Community Acknowledgement Form signed by an official representing the local jurisdiction. The Community Acknowledgement Form includes the following statement,

*Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirement that no fill be placed in the regulatory floodway, and that **all necessary Federal, State, and local permits have been, or in the case of a Conditional LOMR-F, will be obtained.** (Emphasis added)*

A local government's decision to sign the Community Acknowledgement form can be based on the same criteria it uses to confirm ESA compliance for any floodplain development permit.

Part 5 - Examples

These examples can be used to initiate a discussion on how a jurisdiction might reduce its liability under the Endangered Species Act and meet FEMA's expectations for NFIP communities as they relate to the ESA. **The structure and content are intended as a draft from which a jurisdiction can shape its own strategy.**

- 5.1 - Take Avoidance – sorting applications and applying review standards when the intention is to minimize the risk of a permitted development activity resulting in harm to listed salmon
- 5.2 – Cumulative impact avoidance – sorting applications and applying review standards when the intention is to avoid small impacts that could cumulatively impact listed salmon
- 5.3 – Checklist for Habitat Impact Assessment Adapted from FEMA Correspondence

5.1 Take Avoidance

▪ Example Tier Threshold for Take Avoidance

This example review process considers impact from individual permit applications in isolation and assumes the permit authority's objective is to maintain a very low risk of take. It will not meet FEMA's guidance for demonstrating no adverse impact to floodplain functions.

The example described below is designed to apply to development in the Special Flood Hazard Area (100 year floodplain) and presumes that some permit applications will require habitat impact assessments to document that impacts will be avoided or that ESA compliance will be assured. Once sorted by tier, review parameters can be applied. Suggested review parameters are described in [Table 5.1](#). The intent of this example is to apply fewer assessment requirements to projects that trigger fewer mechanisms for impacting habitat.

– Example purpose statement with a focus on take avoidance

Local Endangered Species Act (ESA) review is to ensure that [Jurisdiction] does not authorize an activity that is likely to result in "take" of a listed salmon species as defined in the ESA, unless the activity is covered for incidental take by an existing federal authorization or permit. A permit issued by the [city/county] does not provide any liability coverage for incidental take of a listed species.

Under section 9 of the ESA it is a violation of federal law for government entities and individuals to harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species. Harm may include significant habitat modification where it actually kills or injures a listed species through impairment of essential behavior.

Generally permits will be issued to projects that preserve the natural hydrology of the floodplain, off channel refugia ("connectivity"), and riparian vegetation. Also the review process will ensure that there is no significant increase in pollutants discharged via stormwater to surface waters.

Local ESA review is not required for floodplain development permit applications for activities that take place exclusively within the beds and banks of a stream, since these activities require an Army Corps of Engineers (ACOE) permit, and will be covered for incidental take under a programmatic

approval through the ACOE. Projects that have both an in-stream and upland component will require local ESA review. ACOE ESA coverage will need to be documented by the applicant.

Level of review

Level of review, Type I, II, or III, will be determined by the characteristics of a development proposed within the Special Flood Hazard Area. Three categories of potential for impact are described, Tier 1, 2 and 3. Only applications that meet the clear and objective criteria of a Tier 3 category can be reviewed using a Type I process. Projects that fall into Tier 1 or Tier 2 will require discretionary review, but the habitat assessment required of Tier 2 applications will have fewer discretionary criteria to address than that for a Tier 3 application. Within the review structure described here many applications for development in the Special Flood Hazard Area will require a discretionary level of review. Jurisdictions may want to suggest that applicants modify their projects to eliminate or reduce adverse effects before initiating a Tier 3 review.

Tier 1 (Tier 1 activities are those that occur in areas most highly connected to a stream and pose an unacceptable risk of take liability for the jurisdiction)

- Development is located within the floodway
- Development will disturb vegetation within 50' of top of bank*
- Development will result in disturbance within the 2-year flood elevation (or within 50 feet of features identified as high water refugia areas)[†]
- Development would restrict or redirect hyporheic flow to a salmon bearing streams by altering wetlands or springs or installing underground structures
- Culverts that provide conveyance for fish bearing surface water including intermittent and ephemeral streams

Tier 2 (Tier 2 activities are those that occur in areas less connected to the stream and for which management practices are available to minimize the risk of causing harm, which results in injury or death to salmon, through habitat degradation.)

- Development is not subject to tier 1 review.
- The development has a new or expanded footprint, including vegetation removal, greater than one acre [‡]
- The development will result in 50 cubic yards of fill or greater [§]
- Development will result in soil disturbance that is not covered by a NPDES 1200C permit or local erosion and sediment control standards (ESA review options for erosion control will depend on whether or not a jurisdiction has local standards for erosion control. See Tier 3)

Stormwater runoff from new impervious surfaces greater than 3,000 square will not be discharged to a municipal storm sewer system that is permitted by DEQ. ^{||} (ESA review options for stormwater will depend on whether or not a jurisdiction has local standards for stormwater management. See Tier 3)

Tier 3 (Tier 3 activities are those that occur in areas less connected to the stream and for which existing regulations or clear and objective standards are met so that no discretionary review is needed to ensure a very low risk of in injury or death to salmon through habitat degradation.)

- Development is not subject to tier 1 review
- The development has a new or expanded footprint less than one acre [‡]

- The development will result in less than 50 cubic yards of fill [§]
- Soil disturbance
 - Jurisdictions with local erosion prevention and sediment control standards may decide not to have separate standards for development in the SFHA. (For cities and counties that are not NPDES Phase 1 or 2 communities with MS4 permits, consider getting DEQ's opinion on your local erosion and sediment control standards.)
 - Jurisdictions without local erosion prevention and sediment control standards may want to address potential impacts from construction related stormwater through a clear and objective review process when possible. Many Oregon jurisdictions have performance standards that can be used as models and design manuals that can be referenced directly.
- New impervious surfaces
 - Jurisdictions with local stormwater review standards may decide not to have separate standards for development in the SFHA.
 - Jurisdictions without local stormwater review standards may want to address potential impacts from stormwater through a clear and objective review process when possible, e.g. New impervious surfaces will be less than 3,000 square feet or post construction stormwater from the site will be managed in one of the following ways: ^{||}
 - infiltrated on site up to 90% of the two year storm volume;
 - treated and managed to remove 80% of the TSS from all new impervious surfaces and maintain runoff rates at the same hydrograph as pre construction;
 - or
 - discharged to a municipal storm sewer system that is permitted by DEQ

*In this example 50 feet is used because it is a common riparian buffer in Oregon. Also 50' can support overhanging vegetation and a root structure that contribute to habitat elements of a stream. A 50' riparian area is not supportive of all natural stream functions.

†This criterion is intended to flag developments that could degrade areas that are highly connected to a stream and could be used by fish as refuge during high flow events. The 2-year flood elevation is used as a surrogate clear and objective threshold. It is possible to inventory and map high water refuge areas. Such a map would be a more accurate indication of these valuable habitat elements.

‡ One acre is the threshold over which an NPDES 1200C, construction site stormwater, permit is required for this reason it may be a good threshold to trigger post construction stormwater management as well.

§ 50 cubic yards is an arbitrary threshold, although it is also a threshold used by DSL to trigger a state removal/fill permit for activities in waters of the state. In addition to the low volume threshold, Tier 3 activities have the precaution that fill will not be placed in areas highly connected to the river. For this example the two measures, combined, are assumed to avoid appreciable impacts to salmon by fill.

II Stormwater impacts should really be considered for an entire urban area. The 3,000 square feet threshold is arbitrary, roughly selected to capture impervious surfaces associated with construction of a new single family house. The treatment standards are borrowed from EPA recommended standards for treating urban stormwater in coastal zones. It may be difficult to achieve significant benefit to salmon by setting a standard for post construction stormwater only in the floodplain. Stormwater is best managed at a city-wide or watershed scale.

■ **Table 5.1 Example Assessment Parameters to Address Potential for Take of ESA Listed Salmon Populations**

This table lists potential impacts to salmon habitat that could arise from development activities in the Special Flood Hazard Area. It illustrates how the scope of a Habitat Impact Analysis could be limited based on a prior sorting of applications by severity of land alteration (See *Example Tier Threshold for Take Avoidance* for descriptions of Tier 1, 2 and 3 projects.) The scope of a Habitat Impact Analysis can be further reduced when a local government is able to establish clear objective thresholds for avoiding impact. In this example an applicant is expected to avoid any measurable impact to instream habitat to ensure there will be no “harm” to fish as a result of the project. The applicant is also expected to avoid the possibility of fish being trapped or injured by the project during flood events.

The assessment parameters in this table are only examples. Requirement for complying with the ESA are described in the act itself

Assessment Parameter	Tier 1	Tier 2	Tier 3
<ul style="list-style-type: none"> Water quality 			
<p>WQ-1 Discharge of a pollutant into surface water:</p> <ul style="list-style-type: none"> Increase in temperature load (decrease in shade) Decrease in dissolved oxygen (DO) Increase in Biological oxygen demand Increase in other chemical parameters or toxics <p>If yes: Would the instream impact be measurable? Could it result in a violation of DEQ water quality standards? Over what spatial and temporal scale? What is the maximum impact on fish?</p>	X	X	
<p>WQ-2 Sediment delivery to surface water and deposition that degrades physical in-stream habitat:</p> <ul style="list-style-type: none"> Increase in sediment delivered to a stream reach (upland erosion and sediment transport) Increase in bank erosion potential due to flow increases or loss of bank stability Increase in deposition due to flow decreases Increase in total suspended solids Decrease in interstitial gravel DO <p>If yes: Would the change result in a violation of DEQ water quality standards? Would the change result in measurable degradation or loss of known spawning habitat? Over what spatial and temporal scale? What is the maximum impact on fish?</p>	X	X	

Assessment Parameter	Tier 1	Tier 2	Tier 3
<ul style="list-style-type: none"> Hydrology 			
H-1 Low flow hydrologic regimes: Underground structures that would restrict or redirect hyporheic flow Reduction in stormwater infiltration If yes: Would the change result in changes to the magnitude, duration, of low summer baseflows in perennial streams? See WQ-1 for temperature impacts. Over what spatial and temporal scale? What is the maximum impact on fish?	X		
H-2 High flow or flood hydrologic regimes: Changes to the magnitude, duration, or recurrence intervals of flood flow Additions of impervious surfaces that drain to the stream Alterations to an existing storm drain systems If yes: In addition to impacts considered under WQ-2, would the change result in increased velocities within in-stream habitat units (e.g. pools, glides, side-channels) that provide refugia for fish? Do estimated potential changes have risk of causing measurable or observable negative impacts to ESA-listed fish species or their critical habitat? Over what spatial and temporal scale? What is the maximum impact on fish?	X	X	
<ul style="list-style-type: none"> Floodplain connectivity 			
FC-1 Loss of floodplain area: Placement of structures such as dikes, levies, or stream bank fortifications in the floodplain Placement of fill in the floodplain If yes: Would the reduction risk causing measurable negative impacts to ESA-listed fish species or their critical habitats Over what spatial and temporal scale? What is the maximum impact on fish?	X	X	
FC-2 Off-channel refugia Grading or fill in the floodplain Bank armoring or levies If yes: Would the activity result in loss of depressions, historic channels, or natural intermittent drainage areas that are above ordinary high water, but are frequently connected to the stream during high flows and provide refuge for fish? What is the maximum impact on fish?	X		
FC-3 potential for Injury or trapping Grading in the floodplain, manipulation of drainage patterns, fencing If yes: Would the activity increase the chance of a salmon being injured or trapped in depressions or behind barriers as floodwaters recede? What is the maximum impact on fish?	X	X	
<ul style="list-style-type: none"> Riparian vegetation 			
RV-1 Bank stability Development in conflict with the establishment and growth of shrubs, trees and other vegetation that contribute to bank stability If yes: Does the potential change risk causing measurable negative impacts to ESA-listed fish species or their critical habitats? Over what spatial and temporal scale?	X		

Assessment Parameter	Tier 1	Tier 2	Tier 3
RV-2 Cover Removing vegetation that overhangs the water Replacing native vegetation with non-native Development in conflict with the establishment and growth of native plants that overhang the water If yes: Does the potential change risk of causing measurable negative impacts to ESA-listed fish species or their critical habitats? Over what spatial and temporal scale?	X		

5.2 Cumulative Impacts

▪ Example tier threshold for cumulative impact avoidance

This example may meet or be close to meeting FEMA’s guidance for demonstrating no adverse impact to floodplain functions. It is designed to apply to development in the Special Flood Hazard Area, or 100 year floodplain, and presumes that that some or all permit applications will require habitat impact assessments to document that impact will be avoided or that ESA compliance will be assured. Once sorted by tier, review parameters can be applied. Suggested review parameters are described in [Table 5.2](#). The intent of this example is to apply fewer assessment requirements to projects that trigger fewer mechanisms for impacting habitat. This example illustrates an approach that anticipates the potential for cumulative degradation of salmon habitat to be appreciable, even if the impacts from each individual project cannot be observed.

Example purpose with a focus on avoiding cumulative impacts

Local Endangered Species Act (ESA) review is needed to ensure that [Jurisdiction] supports salmon protection and species recovery when issuing development permits within the Special Flood Hazard Area permit issued by the [city/county] does not provide any liability coverage for incidental take of a listed species for the permittee. The review criteria applied by [Jurisdiction] are designed to minimize or mitigate loss of floodplain functions so that the cumulative impact of the city’s permitting program will have a negligible or beneficial impact on salmon habitat.

Generally permits will be issued to projects that preserve the natural hydrology of the floodplain, off channel refugia (“connectivity”), and riparian vegetation. Also the review process will ensure that there is no significant increase in pollutants or stormwater discharged to surface waters.

Local ESA review is not required for floodplain development permit applications for activities within the beds and banks of a stream, since these activities require an Army Corps of Engineers (ACOE) permit, and will be covered for incidental take under a programmatic approval through the ACOE. Projects that have both an in-stream and upland component will require local ESA review. ACOE ESA coverage will need to be documented by the applicant.

Level of review

Level of review, Type I, II, or III, will be determined by the characteristics of a development proposed within the Special Flood Hazard Area. Three categories of potential for impact are described, Tier 1, 2 and 3. Only applications that meet the clear and objective criteria of a Tier 3 category can be reviewed

using a Type I process. Projects that fall into Tier 1 or Tier 2 will require discretionary review, but the habitat assessment required of Tier 2 applications will have fewer discretionary criteria to address than that for a Tier 3 application. [Within the review structure of this example many applications for development in the Special Flood Hazard Area require a discretionary level of review.] Jurisdictions may want to suggest that applicants be modified their projects to eliminate or reduce adverse effects before initiating a Tier 3 review.

Tier 1

- Development is located within the floodway
- Development will disturb vegetation within 50 of top of bank*
- Development will result in grading within the 2-year flood elevation (or within 50 feet of features identified as high water refugia areas) †
- Development would include underground structures that would restrict or redirect hyporheic flow to a salmon bearing stream
- Culverts will be placed to provide conveyance for fish bearing surface water including intermittent and ephemeral streams

Tier 2

- Development is located outside the floodway
- Development will remove vegetation within 170' (or one potential tree height) of top of bank**
- Development will not cause disturbance within the 2-year flood elevation (or within 50 feet of features identified as high water refugia areas) †
- New structures and additions will result in a new footprint that is no more than 10% greater than the footprint of all structures existing on the parcel on (specify date).
- The development will result greater than 50 cubic yards of fill[§]
- Development will result in soil disturbance that is not covered by a NPDES 1200C permit or local erosion and sediment control standards ‡
- New impervious surfaces greater than 3,000 square feet will generate storm water runoff does not discharged to a municipal storm sewer system that is permitted by DEQ.
- Development will include stormwater treatment or conveyance features accessible to salmon during a flood event (e.g. ditches or detention facilities).

Tier 3

- Development is not subject to tier 1 review
- New structures and additions will be located greater than 170' from top of bank or have a footprint no greater than 10% of existing structures.
- The development will result in less than 50 cubic yards of fill
- Soil disturbance
 - Jurisdictions with local erosion prevention and sediment control standards may decide not to have separate standards for development in the SFHA. (For cities and counties that are not

NPDES Phase 1 or 2 communities with MS4 permits, consider getting DEQ's opinion on your local erosion and sediment control standards.)

- Jurisdictions without local erosion prevention and sediment control standards may want to address potential impacts from construction related stormwater through a clear and objective review process when possible. Many Oregon jurisdictions have performance standards that can be used as models and design manuals that can be referenced directly.

- New impervious surfaces

- Jurisdictions with local stormwater review standards may decide not to have separate standards for development in the SFHA.

- Jurisdictions without local stormwater review standards may want to address potential impacts from stormwater through a clear and objective review process when possible, e.g.

New impervious surfaces will be less than 3,000 square feet or post construction stormwater from the site will be managed in one of the following ways:[#]

- infiltrated on site up to 90% of the two year storm volume;
- treated and managed to remove 80% of the TSS from all new impervious surfaces and maintain runoff rates at the same hydrograph as pre construction or;
- discharged to a municipal storm sewer system that is permitted by DEQ.

*In this example 50 feet is used because it is a common riparian buffer in Oregon. Also 50' can support overhanging vegetation and a root structure that contribute to habitat elements of a stream. A 50' riparian area is not supportive of all natural stream functions.

**In this example 170 feet is used because it is the width of the riparian buffer zone described in FEMA's proposed action under consultation by NMFS. In the proposed action a no adverse impact standard is applied to the floodway and the riparian buffer zone within a Special Flood Hazard Area.

†This criterion is intended to flag developments that could degrade areas that are highly connected to a stream and could be used by fish as refuge during high flow events. The 2-year flood elevation is used as a surrogate clear and objective threshold. It is possible to inventory and map high water refuge areas. Such a map would be a more accurate indication of these valuable habitat elements.

‡ A DEQ NPDES 1200C stormwater permit is required for construction sites larger than one acre, and smaller sites if part of a "common plan of development or sale" disturbing one or more acres. In this example grading and vegetation removal would not occur within 170' of top of bank. For this reason a one acre threshold may be adequate to prevent sediment impacts to salmon habitat. A lower threshold for erosion control could be established at the local level.

§ 50 cubic yards is an arbitrary threshold, although it is also a threshold used by DSL to trigger a state removal/fill permit for activities in waters of the state. Loss of floodplain area, over time, by fill or diking is the primary mechanisms through which development in a floodplain impacts salmon. To account for cumulative impacts a jurisdiction can consider parcelization and development patterns and anticipate the effect of numerous applications of a particular clear and objective threshold. The volume threshold

should be inversely related to the development potential that remains in the floodplain. The following are also options to address the cumulative loss of floodplains: prohibiting all fill; requiring mitigation for fill; or conducting floodplain restoration projects on city/county owned property to offset anticipated losses allowed under the local floodplain development permit.

3,000 square feet is an arbitrary threshold roughly selected to capture impervious surfaces associated with construction of a new single family home.

▪ **Table 5.2 Example Assessment Parameters to Address Potential for Cumulative Impacts to ESA Listed Salmon Populations**

This table lists potential impacts to salmon habitat that could arise from development activities in the Special Flood Hazard Area. It illustrates how the scope of a Habitat Impact Analysis might be limited based on a prior sorting of applications by severity of land alteration (See *Example Tier Threshold for Cumulative Impacts* for descriptions of Tier 1, 2 and 3 projects.) The scope of a Habitat Impact Analysis can be further reduced when a local government is able to establish clear and objective thresholds for avoiding impact. This example anticipates that several small impacts could result in measurable decline of habitat, thus an applicant is expected to provide mitigation for permanent loss of floodplain functions even when impacts specific to the permit will not result in measurable impacts to in-stream habitat. The applicant is also expected to avoid the possibility of fish being trapped or injured by the project during flood events. (The assessment parameters in this table are only examples. Requirement for complying with the ESA are described in the act itself.)

Assessment Parameter	Tier 1	Tier 2	Tier 3
• Water quality			
WQ-1 Discharge of a pollutant into surface water: Increases in temperature load (decrease in shade) Decrease in dissolved oxygen (DO) Increase in biological oxygen demand Increase in other chemical parameters or toxics If yes: Is a DEQ water quality permit required? What changes to pollutant discharges are expected? Over what spatial and temporal scale? How will the impact be mitigated?	X	X	
WQ-2 Sediment delivery to surface water and deposition that degrades physical in-stream habitat: Increase in sediment delivered to a stream reach (upland erosion and sediment transport) Increase in bank erosion potential due to flow increases or loss of bank stability Increase in total suspended solids Decrease in interstitial gravel DO If yes: Is a DEQ water quality permit required? What changes sediment discharges are expected? Over what spatial and temporal scale? How will the impact be mitigated?	X	X	

Assessment Parameter	Tier 1	Tier 2	Tier 3
<ul style="list-style-type: none"> Hydrology 			
H-1 Low flow hydrologic regimes: Underground structures that would restrict or redirect hyporheic flow Reduction in stormwater infiltration If yes: Would the change result in changes to the magnitude, duration, of low summer baseflows in perennial streams? See WQ-1 for temperature impacts. Over what spatial and temporal scale? How will these impacts be mitigated?	X	X	
H-2 High flow or flood hydrologic regimes: Changes to the magnitude, duration, or recurrence intervals of flood flow Additions of impervious surfaces that drain to the stream Alterations to an existing storm drain systems If yes: In addition to impacts considered under WQ-3, would the change result in increased velocities within in-stream habitat units (e.g. pools, glides, side-channels) that provide refugia for fish? Over what spatial and temporal scale? How will these impacts be mitigated?	X	X	
Floodplain connectivity			
FC-1 Loss of floodplain area: Placement of structures such as dikes, levies, or stream bank fortifications in the floodplain Placement of fill in the floodplain <ul style="list-style-type: none"> If yes: what is the volume and area of the fill? How will these impacts be mitigated? 	X	X	X
FC-2 Off-channel refugia Grading or fill in the floodplain Bank armoring or levees If yes: Would the activity result in loss of depressions, historic channels, or natural intermittent drainage areas that are above ordinary high water, but are frequently connected to the stream during high flows and provide refuge for fish? How will these impacts be mitigated?	X		
FC-3 potential for Injury or trapping Grading in the floodplain, manipulation of drainage patterns, fencing If yes: Would the activity increase the chance of a salmon being injured or trapped in depressions or behind barriers as floodwaters recede? What is the maximum impact on fish?	X	X	
<ul style="list-style-type: none"> Riparian vegetation 			
RV-1 Bank stability Development in conflict with the establishment and growth of shrubs, trees and other vegetation that contribute to bank stability If yes: Does the change impact bank stability? Over what spatial and temporal scale? How will impacts be mitigated?	X		

Assessment Parameter	Tier 1	Tier 2	Tier 3
RV-2 Cover and organic input Removing vegetation that overhangs the water Replacing native vegetation with non-native Development in conflict with the establishment and growth of native plants that overhang the water If yes: Does the potential change reduce delivery of macroinvertebrates or their food source? Does the change reduce overhanging vegetation and bank structures that provide cover for fish? Over what spatial and temporal scale? How will the impacts be mitigated?	X		
RV-3 Large wood debris recruitment Removal of trees Development in conflict with the establishment and growth of trees Development in conflict with natural mechanisms that delivers large wood to streams If yes: Does the potential change contribute to loss or impairment of floodplain functions and large wood recruitment that ultimately support diverse stream structure? Over what spatial and temporal scale? How will the impacts be mitigated?	X	X	

5.3 Checklist for Habitat Impact Assessment Adapted from FEMA Correspondence

The documentation and assessment parameters described by FEMA include consideration for all threatened and endangered species.

Habitat Impact Assessment Report

Include the following:

- Map(s) of the general project area that clearly show the Special flood Hazard Area boundary, streams and wetlands
- Aerial photo(s) of the general project area
- A narrative to describe current habitat baseline conditions for nearest potential ESA-listed species or designated critical habitat (terrestrial and aquatic), and where they are relative to the proposed project (distances), and what information/data was used to determine
- Volumes of fill proposed
- Where compensatory storage will be constructed to compensate for any fill proposed
- Description of new, expanded or improved structures. Include discussion of potential for any impacts to downstream ESA- listed species or their critical habitats
- Description of new or resurfaced parking or storage areas, including, surface proposed (gravel or paved), and full description of stormwater pollution prevention plan. Including discussion of potential for any impacts to downstream ESA- listed species or their critical habitats
- Discussion of any potential direct, indirect, or cumulative adverse effects to ESA-listed species and/or designated critical habitats, as well as what mitigation will occur to avoid, minimize, and/or compensate for any such effects Please note that any potential effects that are not ‘insignificant, or inconsequential’ are, by definition under the ESA, considered to be Adverse Effects.

- This assessment needs to describe the potential effects to the following natural processes and functions relative to aquatic habitats (as well as describe any effects to terrestrial species and/ designated critical habitats) :

Water quality

- Does the proposed project include any actions that may have any potential to cause measurable degradation to any water quality variable in any locations?
- If so, which variables may be affected?
- Is there any potential for impacts that would result in any variables (over any temporal scale) not meeting State of Oregon water quality standards in or below the action areas?
- If so, do estimated changes have more than an insignificant or inconsequential risk of causing measurable or observable negative impacts (at any time scale) to ESA-listed fish species or their critical habitats in or downstream of the project action areas, and how was this assessed?
- If so, what is the maximum estimated spatial scale and locations (including any downstream effects), and maximum time period when impacts to ESA-listed fish species or their critical habitats may occur?

Water temperature

- Does the proposed project include any actions that may have more than an insignificant or inconsequential risk of causing measurable increases in water temperature in any locations?
- If so, is there any potential for impacts that would result in water temperature (over any temporal scale) not meeting State of Oregon water quality standards in or below the action areas?
- If so, do potential estimated increases in water temperature have more than an insignificant or inconsequential risk of causing measurable or observable negative impacts (at any time scale) to ESA-listed fish species and how was this assessed?
- If so, what is the maximum estimated spatial scale and locations (including any downstream effects), and maximum time period when impacts to ESA-listed fish species may occur?

Low flow hydrologic regimes (including hyporheic flows)

- Does the proposed project include any actions that may have the potential to affect the magnitude, duration, or recurrence intervals of low summer baseflows in any locations?

- If so, do estimated changes have more than an insignificant or inconsequential risk of causing measurable or observable negative impacts (at any time scale) to ESA-listed fish species or their critical habitats in or downstream of the project action areas, and how was this assessed?
- If so, what is the maximum estimated spatial scale and locations (including any downstream effects), and maximum time period when impacts to ESA-listed fish species or their critical habitats may occur?

High flow (flood) hydrologic regimes

- Does the proposed project include any actions that may have the potential to affect the magnitude, duration, or recurrence intervals of flood flows in any locations?
- If so, do estimated changes have more than an insignificant or inconsequential risk of causing measurable or observable negative impacts (at any time scale) to ESA-listed fish species or their critical habitats in or downstream of the project action areas, and how was this assessed?
- If so, what is the maximum estimated spatial scale and locations (including any downstream effects), and maximum time period when impacts to ESA-listed fish species or their critical habitats may occur?

Flood velocities

- Does the proposed project include any actions that may have the potential to increase water velocities in streams or rivers during high flow events?
- If so, would streambed shear, sediment transport capacity, or velocities in habitat units (e.g. pools, glides, side-channels) that provide refugia for fish from high velocities potentially be increased over any time frame?
- If so, do estimated potential changes have more than an insignificant or inconsequential risk of causing measurable or observable negative impacts (at any time scale) to ESA-listed fish species or their critical habitats in or downstream of the project action areas, and how was this assessed?
- If so, what is the maximum estimated spatial scale and locations (including any downstream effects), and maximum time period when impacts to ESA-listed fish species or their critical habitats may occur?

Sediment delivery (erosion) and sediment regime (in-stream transport)

- Does the proposed project include any actions that may have the potential to increase rates of surface erosion, delivery of sediments to water bodies, or total loadings (volumes) of sediment transported in rivers?

- If so, do estimated potential changes have more than an insignificant or inconsequential risk of causing measurable or observable negative impacts (at any time scale) to ESA-listed fish species or their critical habitats in or downstream of the project action areas, and how was this assessed?
- If so, what is the maximum estimated spatial scale and locations (including any downstream effects), and maximum time period when impacts to ESA-listed fish species or their critical habitats may occur?

Spawning substrate

- Does the proposed project include any actions that may have the potential to increase rates or volumes aggradation fine- (less than 0.85 mm diameter, i.e. sand, silt and clay particles) or coarse-sediments on potential spawning substrates?
- If so, do estimated potential changes have more than an insignificant or inconsequential risk of causing measurable or observable negative impacts (at any time scale) to reproductive success of redds of ESA-listed fish species, and how was this assessed?
- If so, what is the maximum estimated spatial scale and locations (including any downstream effects), and maximum time period when impacts to ESA-listed fish species or their critical habitats may occur?

Floodplain connectivity and refugia for ESA-listed species

- Does the proposed project include any actions that may have the potential to affect the extent and level of the connection of stream channels to their floodplains, or the distribution and quality of refugia for ESA-listed fish species?
- If so, do estimated changes have more than an insignificant or inconsequential risk of causing measurable or observable negative impacts (at any time scale) to ESA-listed fish species or their critical habitats in or downstream of the project action areas, and how was this assessed?
- If so, what is the maximum estimated spatial scale and locations (including any downstream effects), and maximum time period when impacts to ESA-listed fish species or their critical habitats may occur?

Riparian vegetative community (food input to stream, nutrient cycling, potential for recruitment of large woody debris to stream)

- Does the proposed project include any actions that may have the potential to affect the magnitude, quality, or rate of nutrient cycling; or the rate, distribution, and volume of input of food and large woody debris to streams and rivers?

- If so, do estimated changes have more than an insignificant or inconsequential risk of causing measurable or observable negative impacts (at any time scale) to ESA-listed fish species or their critical habitats in or downstream of the project action areas, and how was this assessed?
- If so, what is the maximum estimated spatial scale and locations (including any downstream effects), and maximum time period when impacts to ESA-listed fish species or their critical habitats may occur?

Part 6 - Resources

6.1 Oregon Department of Land Conservation and Development

The Department of Land Conservation and Development (DLCD) will continue to facilitate communication between FEMA and local governments. DLCD will also maintain a list-serve to distribute information to interested parties on implementation of the proposed action and any reasonable and prudent alternatives included in the biological opinion. A web based collaborative work space will be available, through which local governments can share ideas on meeting new minimum standards for participation in the NFIP.

For comments or questions regarding the list serve, the web-based collaborative meeting space, this document, and DLCD's interface with the NFIP and implantation of new NFIP minimum standards contact:

Amanda Punton
Amanda.punton@state.or.us
971-673-0961

6.2 Online Resources and Maps

A Citizen's Guide to the 4(d) Rule for Threatened Salmon and Steelhead on the West Coast

http://www.westcoast.fisheries.noaa.gov/publications/reference_documents/esa_refs/section4d/4d-citizens-guide.pdf

General information from NOAA on Section 4(d)

http://www.westcoast.fisheries.noaa.gov/permits/section_4d.html

Citizens' Guide to the Endangered Species Act; Sarah Matsumoto, The Endangered Species Coalition et al; 2003.

http://earthjustice.org/sites/default/files/library/reports/Citizens_Guide_ESA.pdf

Endangered Species Act Assessment Manual League of Oregon Cities; Oregon Water Utilities Council, and Association of Clean Water Agencies; 2000

http://www.oracwa.org/pdf/acwa-endangered-species-act_2000.pdf

FEMA Program Level Biological Assessment for the NFIP, Oregon, 2013 (Oregon NFIP PBA)

<http://www.fema.gov/library/viewRecord.do?id=7455>

FEMA Habitat Assessment Guidance for Puget Sound; April 2011

<http://www.fema.gov/media-library/assets/documents/85343>

Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale; The National Marine Fisheries Service, Environmental and Technical Services Division, Habitat Conservation Branch; August 1996

http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/docs/biology/nmfs_matrix.pdf

ESA document library from the US Fish and Wildlife Service (includes guidance on Habitat Conservation Plans)

<http://www.fws.gov/endangered/esa-library/index.html>

Habitat Conservation Plans Under the Endangered Species Act; US Fish and Wildlife Service; April 2011

<http://www.fws.gov/endangered/esa-library/pdf/hcp.pdf>

NOAA Fisheries (or NMFS) Endangered Species Act Policies, Guidance, and Regulations

<http://www.nmfs.noaa.gov/pr/laws/esa/policies.htm>

Oregon Department of Fish and Wildlife list of threatened, endangered and candidate species

http://www.dfw.state.or.us/wildlife/diversity/species/threatened_endangered_candidate_list.asp

Recovery plans for salmon and steelhead in Oregon

http://www.westcoast.fisheries.noaa.gov/protected_species/salmon_steelhead/recovery_planning_and_implementation/recovery_plans_supporting_documents.html

Salmon recovery planning, Northwest Fisheries Science Center

<http://www.nwfsc.noaa.gov/trt/>

- Maps to assist with locating fish habitat

National Marine Fisheries Service NW Region; Critical Habitat Mapper for Pacific Salmon and Steelhead

<http://map.streamnet.org/website/CriticalHabitat/viewer.htm>

These datasets identify freshwater, estuarine, and marine areas designated as critical habitat in Federal Register Vol. 70, page 52630, September 2, 2005 for 12 evolutionarily significant units or distinct population segments of Pacific salmon (Chinook, chum, and sockeye) and steelhead in Washington, Oregon, and Idaho. Also included are data representing the proposed critical habitat for Lower Columbia River coho salmon and Puget Sound steelhead trout published on 14 January 2013 (78 FR 2725).

Oregon Department of State Lands Essential Salmon Habitat

<http://www.oregon.gov/dsl/PERMITS/Pages/esshabitat.aspx>

Oregon Department of Forestry Fish Presence and Stream Size data

<http://www.oregon.gov/odf/pages/gis/fishpresence.aspx>

6.3 Case law on ESA take prohibition relevant to local and state government

- **Reviews**

Perkins Coie LLP; *Liability of State Agencies and Local Governments under the Endangered Species Act, A White Paper*; 2002

http://www.warealtor.org/government/qol_cd/policy_briefs/whitepapers/esa_liability.pdf

Excerpts: Answers the following questions based on the ESA, the constitution and case law available at the time: Are state and local governments liable for "take" under the Endangered Species Act when they authorize, or fail to prohibit, activities on private property that harms a species protected

by the Endangered Species Act? Can State and local government regulation—or the lack of regulation—cause the take of protected species?

Laschever, Eric S; *The Endangered Species Act and Its Role in Land Use Planning*; *Seattle Journal of Environmental Law*; Vol. 1:103 2011

Excerpts: By analyzing a decade of legal experimentation in the Pacific Northwest, this paper explores the challenges and successes of integrating federal and local laws aimed at protecting fragile species. Specifically, this paper will examine the intersection of local land use planning and the ESA's unique action-forcing sections in the context of the ESA listing of salmonid species in Washington State. The lessons learned from this case study include the need for consensus-driven action; the importance developing a strong scientific base; the challenge of creating politically appealing, but sufficiently protective, permitting processes; the ineffectiveness of municipal take liability; and the need for a willingness to engage in complex litigation. [Page 103]

In nearly all the cases deciding the issue of a local government's potential liability under the ESA for regulatory activities, the courts reach their decisions by examining the question of causation. A person or entity, including a state or local government, can violate the ESA indirectly through an act or omission that in some way causes a take. But the issue of liability may most often turn on whether the taking would have occurred without the government's act or omission and whether the taking was a foreseeable consequence of the act or omission. Ultimately, the party alleging a violation will have the burden of proving that the government's action constitutes a taking. [Page 106]

Rogerson, Kevin; *Local Impacts Resulting in the Federal Collision Between FEMA's National Flood Insurance Program and the Endangered Species Act*; Unpublished review of National Wildlife Federation v. FEMA, Case No. 2:11-cv-02044-RSM;
<http://www.mrsc.org/artdocmisc/rogerson.pdf>

▪ Cases

National Wildlife Federation v. FEMA, 2004

United States District Court, W.D. Washington, November 15, 2004.

Audubon Society of Portland v. FEMA, 2010; Settled without judgment.

Strahan v. Coxe, 1997

The First Circuit Court of Appeals issued an injunction against the state of Massachusetts to prevent the licensing of private gillnet and lobster pot fishing that caused injury to endangered northern right whales.

Loggerhead Turtle v. Volusia County, 1998

Eleventh Circuit Court of Appeals ruled that a county ordinance regulating artificial beach lighting could be the basis for an ESA violation.

United States v. Town of Plymouth, 1998

A federal district court issued an injunction prohibiting the town of Plymouth from allowing private off-road vehicles to drive on a municipal beach unless precautions were taken to protect endangered shore birds.

Florida Key Deer v. Paulison, 2008

One of the cases that addresses the Federal Emergency Management Agency's (FEMA's) obligations to protect species in the course of operating the National Flood Insurance Program (NFIP). The litigation began in 1990, and resulted in an injunction in 1994 that required FEMA to consult with USFWS in order to fulfill its section 7(a)(1) obligations. Most recently, the Eleventh Circuit decided that the ESA's affirmative duty requirement for federal agencies cannot be met by a conservation program with "insignificant effect."

Animal Welfare Institute v. Martin, 2010

The First Circuit Court of Appeals held that the District Court did not err in its refusal to grant a permanent injunction banning foothold traps or other relief, even though their use resulted in incidental trapping of the Canada lynx, a threatened species. The court found that there was no evidence that the foot traps used to catch other species harmed Canada lynx, when caught and released, to a degree sufficient to constitute take. Addressing the question of whether Canada lynx caught in foothold traps and then released would be more likely to die from predation or starvation in the future, the court found that any "incremental impact is unknown and probably unknowable".

Coalition for a Sustainable Delta and Kern County Water Agency v. FEMA, 2012

Judgment was based on a settlement under which FEMA agreed to enter into ESA section 7 consultation with NMFS and US Fish and Wildlife Service regarding the impacts of the NFIP on federally listed Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, and Delta smelt.

6.4 Glossary

Several links in this glossary lead to information on the US Fish and Wildlife Service (USFW) website. USFW is the federal agency responsible for implementing the ESA as it applies to terrestrial and freshwater species. Their web site presents information in a well-organized and accessible manner. Most of the information is for the ESA and all listed species, but there may be some information specific to terrestrial and freshwater species and USFW procedures that do not apply to marine and anadromous species for which NMFS is the listing agency.

Adverse modification – Direct or indirect alteration that appreciably diminishes the value of the critical habitat for both the survival and recovery of a listed species. (**Appreciably** - Possible to estimate, measure, or perceive.)

Biological assessment - A document prepared for the Section 7 process to determine whether a proposed major construction activity under the authority of a Federal action agency is likely to adversely affect listed species, proposed species, or designated critical habitat.

Biological opinion - A document that is the product of formal consultation, stating the opinion of the Service on whether or not a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

Consultation - All Federal agencies must consult with the U.S. Fish and Wildlife Service (or National Marine Fisheries Service) when any activity permitted, funded, or conducted by that agency may affect a listed species or designated critical habitat, or is likely to jeopardize proposed species or adversely modify proposed critical habitat. There are two stages of consultation: informal and formal.

Critical habitat - Specific geographic areas, whether occupied by listed species or not, that are determined to be essential for the conservation and management of listed species, and that have been formally described in the Federal Register.

Critical habitat for 13 Evolutionarily Significant Units (ESUs) of salmon and steelhead (*Oncorhynchus* spp.) in Washington, Oregon and Idaho. [50 CFR §226.212]

Critical habitat is designated in the following states and counties for the following ESUs as described in paragraph (a) of this section, and as further described in paragraphs (b) through (g) of this section. The textual descriptions of critical habitat for each ESU are included in paragraphs (i) through (t) of this section, and these descriptions are the definitive source for determining the critical habitat boundaries. General location maps are provided at the end of each ESU description (paragraphs (i) through (t) of this section) and are provided for general guidance purposes only, and not as a definitive source for determining critical habitat boundaries.

(a) Critical habitat is designated for the following ESUs in the following states and counties:

ESU	State—Counties
(1) Puget Sound chinook salmon	WA—Clallam, Jefferson, King, Mason, Pierce, Skagit, Snohomish, Thurston, and Whatcom.
(2) Lower Columbia River chinook salmon	(i) OR—Clackamas, Clatsop, Columbia, Hood River, and Multnomah. (ii) WA—Clark, Cowlitz, Klickitat, Lewis, Pacific, Skamania, and Wahkiakum.
(3) Upper Willamette River chinook salmon	(i) OR—Benton, Clackamas, Clatsop, Columbia, Lane, Linn, Marion, Multnomah, Polk, and Yamhill. (ii) WA—Clark, Cowlitz, Pacific, and Wahkiakum.
(4) Upper Columbia River spring-run chinook salmon	(i) OR—Clatsop, Columbia, Gilliam, Hood River, Morrow, Multnomah, Sherman, Umatilla, and Wasco. (ii) WA—Benton, Chelan, Clark, Cowlitz, Douglas, Franklin, Grant, Kittitas, Klickitat, Okanogan, Pacific, Skamania, Wahkiakum, Walla Walla, and Yakima.
(5) Hood Canal summer-run chum salmon	WA—Clallam, Jefferson, Kitsap, and Mason.
(6) Columbia River chum salmon	(i) OR—Clatsop, Columbia, Hood River, and Multnomah. (ii) WA—Clark, Cowlitz, Klickitat, Lewis, Pacific, Skamania, and Wahkiakum.
(7) Ozette Lake sockeye salmon	WA—Clallam.
(8) Upper Columbia River steelhead	(i) OR—Clatsop, Columbia, Gilliam, Hood River, Morrow, Multnomah, Umatilla, and Wasco. (ii) WA—Adams, Benton, Chelan, Clark, Cowlitz, Douglas, Franklin, Grant, Kittitas, Klickitat, Okanogan, Pacific, Skamania, Wahkiakum, Walla Walla, and Yakima.

ESU	State—Counties
(9) Snake River Basin steelhead	(i) <i>ID</i> —Adams, Blaine, Clearwater, Custer, Idaho, Latah, Lemhi, Lewis, Nez Perce, and Valley. (ii) <i>OR</i> —Clatsop, Columbia, Gilliam, Hood River, Morrow, Multnomah, Sherman, Umatilla, Union, Wallowa, and Wasco. (iii) <i>WA</i> —Asotin, Benton, Clark, Columbia, Cowlitz, Franklin, Garfield, Klickitat, Pacific, Skamania, Walla Walla, Wahkiakum, and Whitman.
(10) Middle Columbia River steelhead	(i) <i>OR</i> —Clatsop, Columbia, Crook, Gilliam, Grant, Hood River, Jefferson, Morrow, Multnomah, Sherman, Umatilla, Union, Wallowa, Wasco, and Wheeler. (ii) <i>WA</i> —Benton, Clark, Cowlitz, Columbia, Franklin, King, Kittitas, Klickitat, Lewis, Pacific, Pierce, Skamania, Wahkiakum, Walla Walla, and Yakima.
(11) Lower Columbia River steelhead	(i) <i>OR</i> —Clackamas, Clatsop, Columbia, Hood River, Marion, and Multnomah. (ii) <i>WA</i> —Clark, Cowlitz, Klickitat, Lewis, Pacific, Skamania, and Wahkiakum.
(12) Upper Willamette River steelhead	(i) <i>OR</i> —Benton, Clackamas, Clatsop, Columbia, Linn, Marion, Multnomah, Polk, Tillamook, Washington, and Yamhill. (ii) <i>WA</i> —Clark, Cowlitz, Pacific, and Wahkiakum.
(13) Oregon Coast coho salmon	<i>OR</i> —Benton, Clatsop, Columbia, Coos, Curry, Douglas, Lane, Oregon Lincoln, Polk, Tillamook, Washington, and Yamhill.

Federal action agency - Any department or agency of the United States proposing to authorize, fund, or carry out an action under existing authorities.

Formal consultation - The consultation process conducted when a Federal agency determines its action may affect a listed species or its critical habitat, and is used to determine whether the proposed action may jeopardize the continued existence of listed species or adversely modify critical habitat. This determination is stated in the Service's biological opinion.

Habitat Conservation Plan (HCP) - A plan which outlines ways of maintaining, enhancing, and protecting a given habitat type needed to protect species. The plan usually includes measures to minimize impacts, and might include provisions for permanently protecting land, restoring habitat, and relocating plants or animals to another area. An HCP is required before an incidental take permit may be issued.

Harm - An act which actually kills or injures wildlife. Such acts may include significant habitat modification or degradation when it actually kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding, or sheltering.

Incidental take - Take that results from, but is not the purpose of, carrying out an otherwise lawful activity.

Jeopardy - Under the ESA, jeopardy occurs when an action is reasonably expected, directly or indirectly, to diminish a species' numbers, reproduction, or distribution so that the likelihood of survival and recovery in the wild is appreciably reduced.

Jeopardy biological opinion - A Service Section 7 biological opinion that determines that a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

Listed species - A species, subspecies, or distinct vertebrate population segment that has been added to the Federal lists of Endangered and Threatened Wildlife and Plants as they appear in sections 17.11 and 17.12 of Title 50 of the Code of Federal Regulations (50 CFR 17.11 and 17.12).

Primary Constituent Element (PCE) - A physical or biological feature essential to the conservation of a species for which its designated or proposed critical habitat is based on, such as space for individual and population growth, and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, rearing of offspring, germination, or seed dispersal; and habitats that are protected from disturbance or are representative of the species historic geographic and ecological distribution.

Section 4(d) rule - A special regulation developed by the Service under authority of Section 4(d) modifying the normal protective regulations for a particular threatened species when it is determined that such a rule is necessary and advisable to provide for the conservation of that species.

Section 7 - The section of the Endangered Species Act that requires all Federal agencies, in "consultation" with the Service, to ensure that their actions are not likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of critical habitat.

Section 9 - The section of the Endangered Species Act that deals with prohibited actions, including the import and export, take, possession of illegally taken species, transport, or sale of endangered or threatened species.

Section 10 - The section of the Endangered Species Act that lays out the guidelines under which a permit may be issued to authorize activities prohibited by Section 9, such as take of endangered or threatened species.

Special Flood Hazard Area (SFHA) - The area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. The SFHA is the area where the National Flood Insurance Program's floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies.