

## NFIP BiOp Implementation – A Proposed Approach

**Discussion draft – 4/9/21**

This document outlines an initial “discussion draft” of FEMA’s proposed approach to addressing the 4/14/16 Biological Opinion (“BiOp”) issued by the National Marine Fisheries Service (NMFS) on implementation of the National Flood Insurance Program (NFIP) in Oregon. The intent is to propose a “next step” toward determining what specific actions FEMA could require of Oregon communities, as a condition of participation in the NFIP, to address relevant portions of the Reasonable and Prudent Alternative (RPA) outlined in the BiOp (primarily located in element 4 of the RPA “Floodplain Management Criteria”).

An interagency team of staff from FEMA, NMFS, and Oregon’s Department of Land Conservation and Development (DLCD) have been working since late 2019, with support and input from interested stakeholders, to identify alternative approaches to meeting the intent and standards set forth in this portion of the BiOp. FEMA is also working to directly implement actions identified in other parts of the BiOp and that don’t involve actions by individual NFIP communities, as shown in Table 1. These include a mapping pilot project to address various criteria related to the mapping procedures and related floodplain management standards under the NFIP as well as updates to FEMA’s Community Rating System (CRS) which provides incentives for communities meeting higher standards.

**Table 1. FEMA Activities related to RPA Elements 1-6.**

<b>RPA 1: Notice, Education, and Outreach</b>	Letter to participating communities and tribes was sent June 13, 2016	Completed immediately following BiOp & RPA publication
<b>RPA 2: Interim Measures</b>	Elements of RPA 2 have been incorporated into the “full implementation” approach being pursued by FEMA	<i>Details incorporated into this guidance</i>
<b>RPA 3: Mapping Flood and Flood-Related Hazard Areas</b>	FEMA has established a BiOp Pilot Study to evaluate RPA 3 and related measures to be incorporated into local mapping activities	Outreach, Analysis, Mapping, Delivery: December 2021 to July 2022 (estimated)
<b>RPA 4: Floodplain Management Criteria</b>	Floodplain management criteria outlined in the revised implementation strategy are designed to follow the mitigation framework for assessing habitat impacts (avoid, minimize, mitigate)	<i>Details incorporated into this guidance;</i> NEPA review to begin after final draft of Implementation Plan is completed
<b>RPA 5: Data Collection and Reporting</b>	Reporting Tool developed for community reporting to FEMA; FEMA to compile data for annual submittal to NMFS	HQ supporting efforts for Paperwork Reduction Act (PRA) approval; Steps to begin PRA review are underway
<b>RPA 6: Compliance and Enforcement</b>	Modifications to FEMA’s Community Rating System (CRS) to encourage communities to pursue habitat benefits; will ensure compliance through innovative applications of existing processes	New credit opportunities available for CRS communities under the 2021 CRS Manual Addendum (January 2021); Additional efforts are underway for a national ESA 7(a)1 strategy; A national committee is developing revised strategies for compliance and enforcement

This document proposes a path forward for FEMA’s development of a formal implementation plan, based on the results of the interagency team’s discussions and learning so far. The interagency team requests specific feedback on this proposed approach from stakeholders that have a role or interest in implementation of the BiOp. This feedback will allow the team to refine its proposed approach and help FEMA develop a draft implementation plan that meets the needs and mandates of each of the partner agencies *and* can be implemented on the ground in a timely, effective, and enforceable fashion within the bounds of existing state and federal law. Partner agencies are also providing feedback on this document through a parallel process.

The interagency team’s vision is that the content of this document, once finalized, will be nested within a more complete implementation plan document that provides additional background on intent, policy context, definitions, resources, etc.

## I. Intent of proposed changes to the NFIP in Oregon

The 2016 BiOp determined that FEMA’s proposed implementation of the NFIP created jeopardy for 17 listed species and adverse modification of critical habitat for 16 of those species. The associated RPA outlined an approach to implementing the NFIP in Oregon that would not create jeopardy or adverse modification. While FEMA has begun working on elements of the RPA that are within their direct authority, significant concerns were raised about the approach outlined in RPA 4 through interagency conversations and the stakeholder workshops hosted by FEMA and DLCD in 2016-2017. As a result, the interagency team has also worked to identify potential alternative approaches to implementing the NFIP at the local level that also meet the intent of the RPA.

The current understanding of the interagency team is that **avoiding jeopardy and adverse modification of critical habitat requires FEMA to ensure that NFIP participating communities do not allow unmitigated impacts to three key natural functions of floodplains from new development in the Special Flood Hazard Area (SFHA).** This goal could also be described as setting a standard of **“no net loss” of the three natural floodplain functions** that are addressed within RPA element 4:

## REVIEW QUESTIONS

Stakeholders reviewing this document are invited to provide comments and feedback at meetings or through our virtual flipchart at:

<https://oregonnfip.org/virtual-flipchart/> (live April 16<sup>th</sup>).

All reflections and recommendations are welcome, but here are a couple of questions to get you started:

1. For NFIP communities, do you see a viable path for your community? If not, why?
2. Does the proposed approach meet the intent?
3. What’s missing? What other ideas could we incorporate?
4. Are there elements that you see as very important and would like to see retained?
5. What potential barriers do you see to implementing this approach?
6. Can you share more examples of communities implementing options in Appendix A?

1. Flood storage (as impacted by development in the SFHA that involves fill)
2. Water quality (as impacted by addition of impervious surface in the SFHA)
3. Riparian vegetation (as impacted by development that removes vegetation at or near the edge of rivers and streams)

The interagency team also views RPA element 4 as intended to identify a set of actions, implementable at the local level and required as a condition of participation in the NFIP, to ensure this standard is met both at the scale of individual NFIP communities and, therefore, at the scale of program as implemented in the area covered by the BiOp<sup>1</sup>.

RPA element 4 leans heavily on the mitigation hierarchy<sup>2</sup>, in which:

- Actions are first taken to avoid impacts to sensitive species or habitats to the extent possible;
- Then impacts from unavoidable actions are minimized through careful design and siting; and
- Finally, remaining unavoidable impacts are offset through restoration and conservation efforts.

The interagency team approach outlined below mirrors this approach taken in the RPA, relying on some of the same categories of action outlined in RPA element 4, but restructured in a way that ensures consistency with both FEMA authorities and the existing state land use system and other existing policies and programs in Oregon.

## II. Learning from interagency and stakeholder engagement

From December 2019 to the present, the interagency team has been meeting regularly to better understand each agency's mandate, authorities, goals, and limitations related to the implementation of the BiOp. Starting in February 2020, the interagency team also held a series of large and small stakeholder workshops to hear concerns, ideas, and recommendations from NFIP communities (including tribal government staff and city and county associations) and other stakeholders (including environmental, agriculture, forestry, and development interest groups, utility and port associations, etc.). The goals of both interagency and stakeholder conversations have been to:

1. Identify a set of proactive measures that NFIP communities can take (and in some cases already are taking) to avoid, minimize, and mitigate new development impacts to the three floodplain functions outlined above.
2. Identify potential barriers and challenges that could make it difficult for some NFIP communities to implement these measures. Understanding these barriers and challenges helps us identify a range of implementation options that can be implemented by a wide diversity of communities,

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<sup>1</sup> Page 44 and 46 of the [Biological Opinion](#) provides a map of the action area. An updated map will also be provided in the final version of this document.

<sup>2</sup> 40 CFR 1508.20 contains additional steps related to rehabilitation and maintenance actions, which are often collapsed into the 3 steps outlined here.

and it also helps identify concerns that could be addressed through policy changes, funding, technical assistance, and other resources.

Below is a brief summary of conclusions from these conversations that have helped guide the interagency team's development of the proposed approach described in Section III. A more comprehensive appendix of comments will be included in the final implementation plan document.

- A diversity of paths is needed to accommodate the diversity of Oregon NFIP communities. Different solutions will likely be needed for large vs. small communities; coastal vs. inland; more vs. less developable land in the SFHA.
- Many communities have already taken actions to limit or offset the impact of development on natural floodplain functions – either voluntarily or as a result of other policy drivers – and these efforts should be included in assessment of potential future impacts.
- Oregon's land use planning system, and especially requirements following from Ballot Measures 37 and 49, may make it difficult for local governments to totally preclude new development actions in the SFHA. This reinforces the importance of including meaningful minimization and compensatory mitigation measures for most communities.
- Demonstrating consistency with the BiOp should be simpler for communities with little or no developable land in the SFHA, and also for those willing and able to steer new development strongly away from the SFHA.
- While many Oregon communities already require compensatory mitigation for some or all of the three natural functions, it has proven difficult to achieve timely, effective, and durable offsets through local-level mitigation requirements. As RPA element 4 suggests, additional state and federal guidance, or potentially a statewide programmatic approach, may be needed to ensure implementation paths that rely heavily on mitigation to actually achieve the "no net loss" standard.
- Communities juggle a lot of different competing priorities in land use planning. The need for affordable housing, availability of industrial lands, protection of high-value farm and forest land, impacts on other natural resources, and other natural hazards such as wildfire, are all important drivers of community decisions around planning and growth.

### III. Proposed approach

The interagency team's proposed approach to implementing the BiOp outlines four potential "pathways" for communities to achieve and document consistency with the "no net loss of floodplain functions" standard. Each of these routes balances potential new development impacts within the SFHA with avoidance, minimization, and/or compensation measures to meet the "no net loss" standard. (Figure 1)

**Figure 1: Framework for meeting the no net loss standard**

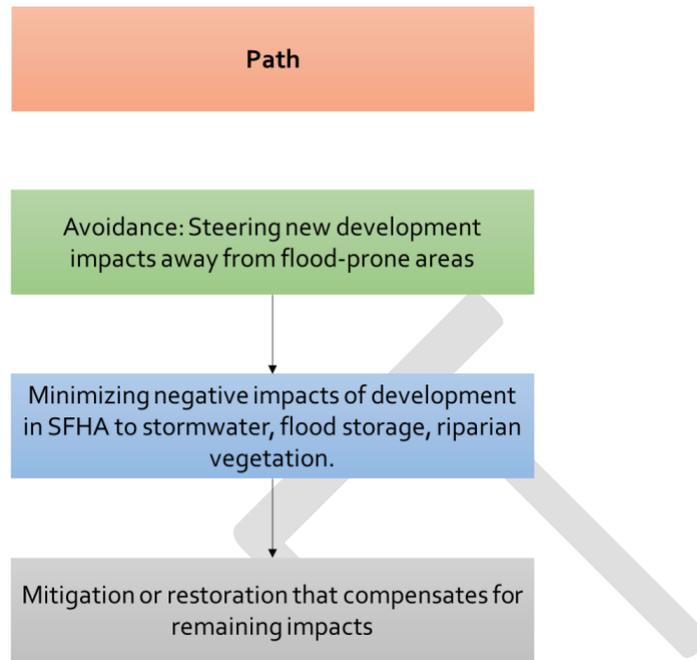
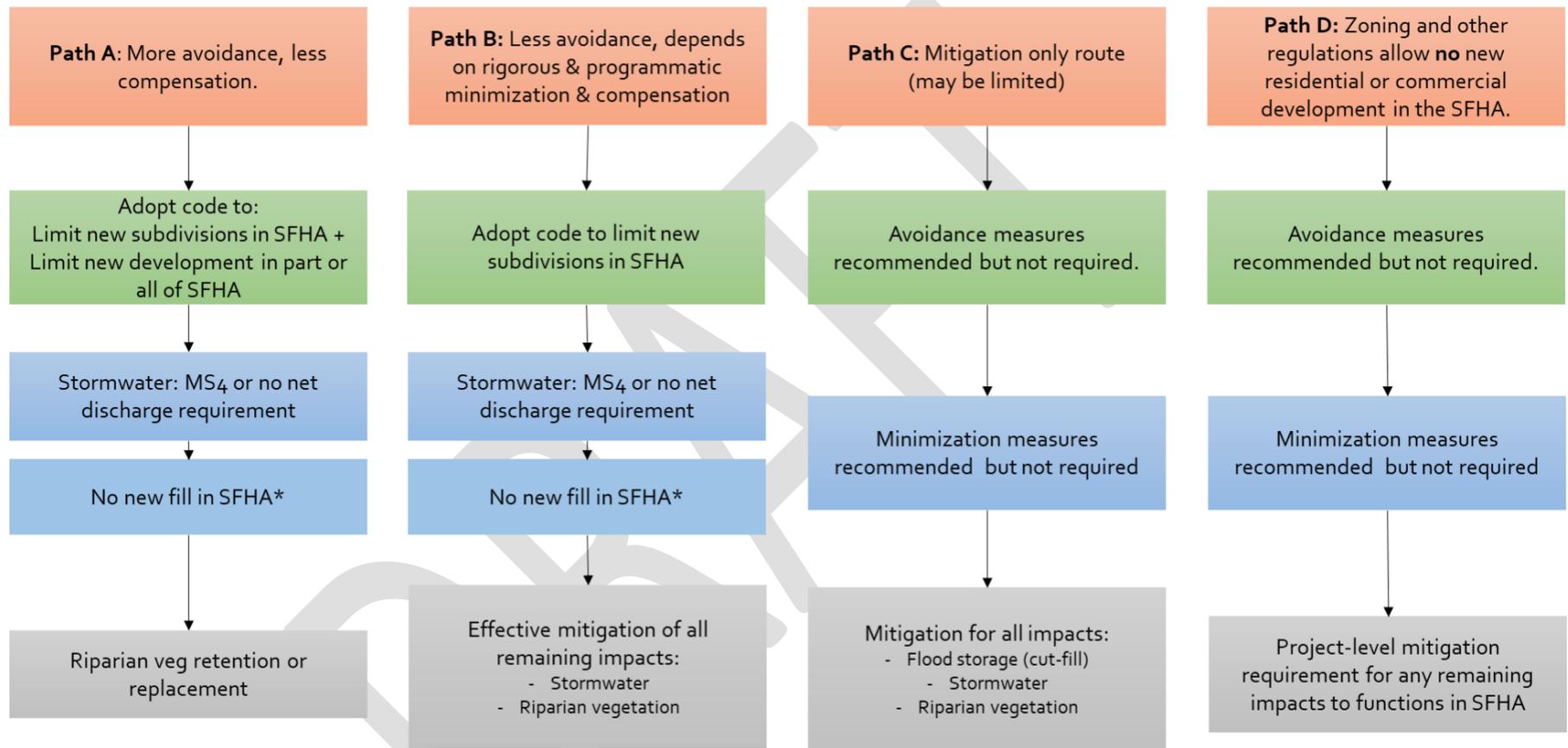


Figure 2 provides a visual overview of the four pathways included in this proposed approach, which are described below in greater detail. While the intent of these pathways is to provide a set of options that meets the diverse needs of the 251 NFIP communities within the BiOp action area, the interagency team recognizes that some communities face unique challenges in managing floodplains and development due to geographical constraints, historical growth patterns, other existing land use restrictions and natural hazards, and/or significant shortages of housing stock or industrial lands. Some local governments may also prefer to build community-driven solutions that meet the no net loss standard through a route not outlined here. The final portion of this section provides ideas for additional flexibility (“off-ramps”) for communities that face unique challenges in managing floodplains and development, or are interested in proposing community-driven solutions to meet the no net loss standard. Any approach a community takes outside of the 4 pathways will require formal approval by FEMA Region 10.

**Figure 2: Overview of Proposed Pathways**



\* Possible cut-fill mitigation alternative

## Path A

### Description

Path A includes strong avoidance measures designed to limit new development within the SFHA to the greatest extent possible. It can be implemented through adoption of ordinance language already in use by some Oregon communities, with the addition of stormwater management standards that some communities will already have in place. The interagency team recommends that FEMA provide model ordinance language based on these existing examples, as part of the BiOp implementation process.

Path A is more focused than other pathways on maintaining existing floodplain functions. It is therefore also the least dependent on a rigorous and comprehensive approach to compensatory mitigation. As a result, actions included on this path are highly likely to also help communities protect public safety and property from flood risks, along with protecting fisheries, water quality, and other resources.

### Steps

1. Adopt or document local code that prohibits platting of new subdivisions that create new lots entirely in the SFHA.
2. Adopt or document local code that limits new development within all or part of the SFHA via one or more of the following routes:
  - a. Prohibit new development in the SFHA where there is a buildable area outside the floodplain. If no buildable area is available outside the floodplain, limit density to 1 unit and require minimization and compensation measures outlined below.
  - b. Prohibit new development in the SFHA that creates a modeled rise in the level of the 100-year flood, with a “minimum assured development area” exception that allows a single unit subject to size and design limitations, and the minimization and compensation measures outlined below.
  - c. Prohibit new development in the 10-year floodplain.
3. Document a stormwater management program through one or more of the following routes:
  - a. DEQ-approved Phase I or Phase II Municipal Separate Storm Sewer (MS4) Permit, or
  - b. Adoption of code and/or a stormwater management manual that includes a “no net discharge” standard for post-construction stormwater management. New development in the SFHA will need to be designed to prevent any increase in peak flow, velocity, pollution, or total runoff volume during specific rainfall events (tentatively, at least during 5-year and 100-year rainfall events). Oregon DEQ provides model code in Appendix B of its [TMDL Implementation Plan Guidance](#).
4. Adopt or document local code that prohibits new fill associated with any new development actions in the SFHA (including development allowed under exceptions in step 2 above). Communities may also consider a balanced cut-fill mitigation requirement in place of this prohibition, but will need to demonstrate the effectiveness of mitigation in offsetting impacts to flood storage and attenuation.
5. Adopt or document local code that requires protection or replacement of riparian vegetation impacted by any new development in the SFHA (including development allowed under exceptions in step 2 above).

### Considerations

- Model code language will be needed for steps 1, 2, 4, and 5, and can likely be adapted from existing local code of several Oregon communities.
- FEMA and its partner agencies are evaluating the effectiveness of existing stormwater management programs and the model code linked above to ensure implementation of these steps would meet the intent of the BiOp.
- Some communities have significant numbers of lots fully within the SFHA or that do not have a buildable area outside of the SFHA, that would qualify for exceptions under steps 2a and 2b above. Steps 3-5 are important to ensure that development projects on these lots still meet the no net loss standard. The goal of step 1 is to ensure no new lots like this are being created by new subdivisions going forward. Stakeholders and agency partners report that it is highly impractical for local governments to stop creation of new lots within the SFHA through subdivisions that have already been platted but are not yet built.
- Additional research is needed on the practicability of step 2 under Measure 37/49 requirements, especially whether a total prohibition on development in the 10-year floodplain would fit under the public safety & health exemption. FEMA might also consider including an exception process for some smaller development impacts – improvements below a threshold, barns and sheds, etc.<sup>3</sup>
- Experience at the state and local level suggests that mitigation for fill in the floodplain tends not to be very effective at compensation for flood storage, especially as a proxy for habitat function. If cut-fill mitigation is included as an option for Paths A and B in the final implementation plan, FEMA should consider providing further guidance or model language on best practices for effective mitigation of fill.
- Similarly, mitigation for stormwater is sometimes required at the local level, when impacts can't be managed on site, but that requirement tends to be nested under a broader stormwater management program, rather than as a requirement in flood code.

## Path B

### Description

Path B aims to provide a more flexible option for communities that may find it challenging to limit new development in the SFHA, or who prefer a route that relies more on compensating for development impacts. However, this route may be challenging to implement with existing resources and guidance, because of the increased pressure it places on ensuring all new development impacts are effectively offset, while accounting for factors such as time delay, proximity, habitat function, and durability of offsets. Further guidance on ensuring effective mitigation will likely be needed prior to full implementation, and should be developed through the collaborative efforts of multiple relevant state and federal agencies, with significant input from local governments and other interested stakeholders.

### Steps

1. Adopt or document local code that prohibits platting of new subdivisions that create new lots entirely in the SFHA.

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<sup>3</sup> The interagency team is currently reviewing new FEMA guidance on agricultural accessory structures that may help define this threshold.

2. Document a stormwater management program through one or more of the following routes:
  - a. DEQ-approved Phase I or Phase II Municipal Separate Storm Sewer (MS4) Permit, or
  - b. Adoption of code and/or a stormwater management manual that includes a “no net discharge” standard for post-construction stormwater management. New development in the SFHA will need to be designed to prevent any increase in peak flow, velocity, pollution, or total runoff volume during specific rainfall events (tentatively, at least during 5-year and 100-year rainfall events). Oregon DEQ provides model code in Appendix B of its [TMDL Implementation Plan Guidance](#).
3. Adopt or document local code that prohibits new fill associated with any new development actions in the SFHA. Communities may also consider a balance cut-fill mitigation requirement in place of this prohibition, but will need to demonstrate the effectiveness of mitigation in offsetting impacts to flood storage and attenuation.
4. Demonstrate a programmatic, effective, and enforceable method for offsetting all new development impacts to stormwater and riparian vegetation. Options for meeting this requirement include one or more of the following options:
  - a. Requiring project-level mitigation consistent with the ratios outlined in the RPA
  - b. Requiring project-level mitigation consistent with (anticipated) state/federal guidance
  - c. Use of mitigation banking, in-lieu fee, impact fees, or other programmatic approaches (also consistent with ratios or guidance)
  - d. Community-level restoration actions or commitments that can be demonstrated to offset impacts of potential development in the SFHA to all three functions.

## Considerations

- Many local government staff work behind the scenes with developers to encourage them to avoid the SFHA whenever possible, even when their regulations don't require it. Avoiding the creation of new lots entirely within the SFHA makes that easier, even without the development prohibitions in Path A.
- Stormwater considerations from Path A also apply here.
- Mitigation considerations from Path A also apply here.
- Detailed mitigation guidance, or potentially even a statewide mitigation program, would be needed to make this route effective, or even implementable in many communities where the RPA ratios might be prohibitive. Significant interagency work on a guidance product would likely need to be done while the implementation plan is in NEPA review, for a clear Path B to be available to communities by the time implementation starts. There are many key agencies and stakeholders interested in contributing to or providing feedback on this product.
- If a community-level restoration route is available, the interagency team recommends developing a model agreement or plan through which communities can outline potential impacts and restoration actions, show their work in balancing the two, and set binding or enforceable commitments. FEMA's guidance should be clear that communities that do not fully implement their restoration commitments on an agreed-upon timeline are not meeting the no net loss standard.

## Path C

### Description

Path C offers a mitigation-centered approach for communities in the SFHA. The interagency team is considering limiting this option to communities that can demonstrate relatively little development potential (e.g., that zoning or other policies have limited potential for new development in the SFHA below a specific quantitative threshold).

Because this approach depends heavily on effective mitigation to meet the no net loss standard, communities choosing this path are encouraged (but not required) to identify additional avoidance and minimization measures from a list of options recommended by other Oregon communities (Appendix A). These measures can help protect public safety, limit property damage, and reduce the cost of responding to and recovering from flood damages. They also often fit well within implementation of community Natural Hazard Mitigation Plans, and many qualify communities for credit under FEMA's Community Rating System.<sup>4</sup>

### Steps

1. Avoidance and minimization measures are recommended but not required. Appendix A provides a list of ideas, best practices, and examples shared by Oregon communities and agency partners.
2. Demonstrate a programmatic, effective, and enforceable method for offsetting all new development impacts to stormwater and riparian vegetation. Options for meeting this requirement include one or more of the following options:
  - a. Requiring project-level mitigation consistent with the ratios outlined in the RPA
  - b. Requiring project-level mitigation consistent with (anticipated) state/federal guidance
  - c. Use of mitigation banking, in-lieu fee, impact fees, or other programmatic approaches (also consistent with ratios or guidance)
  - d. Community-level restoration actions or commitments that can be demonstrated to offset impacts of potential development in the SFHA to all three functions.

### Considerations

- This path may be limited to communities that can demonstrate limited potential for new development (e.g., 1.25% of the surface area of the SFHA). If a similar threshold is used, FEMA should provide a default calculation based on publicly available information. Communities could then demonstrate that additional portions of the SFHA are precluded from development through zoning, park and open space designations, other regulations, or conservation easements, if desired.
- Many of the recommended actions outlined in Appendix A provide significant additional benefits, including flood risk reduction, protection of life and property, protection of other natural resources, and credit under FEMA's Community Rating System, which allows for reduced flood insurance rates for homeowners in participating communities.
- Mitigation considerations from Path B apply.

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<sup>4</sup> FEMA. 2010. [National Flood Insurance Program Community Rating System: CRS Credit for Habitat Protection](#). Update anticipated in 2021.

## Path D

Path D is **only** for communities that can demonstrate that zoning and other regulations and land use restrictions allow **no** new residential or commercial development in the SFHA. Remaining impacts are expected to be limited in scale but might include impacts from any variances, infrastructure projects, or redevelopment that expands impervious area or includes fill.

1. Demonstrate that new residential and commercial development are precluded through zoning, park and open space designations, other regulations, or conservation easements.
2. As with Path C, avoidance and minimization measures are recommended but not required. Appendix A provides a list of ideas, best practices, and examples shared by Oregon communities and agency partners.
3. Require project-level mitigation for any new development impacts to flood storage, stormwater, or riparian vegetation. May use RPA ratios or anticipated state/federal guidance to ensure no net loss standard is met.

### Considerations

- Implementation resources will need to include a process/worksheet for determining how much of the SFHA is developable, and a process for flagging and redirecting communities that might later cross this threshold due to changes in zoning, etc.
- Model code language for mitigation requirements may be needed and can likely be drawn from existing examples around Oregon.

### Alternative Approach “Off-Ramps”

The interagency team recognizes that some Oregon NFIP communities face unique challenges in reducing development impacts to natural floodplain functions. Some communities may also find unique opportunities for improving floodplain management at the watershed scale by coordinating the actions of multiple jurisdictions. Finally, some communities may prefer to take more of a “ground-up” or community-driven approach, proposing a set of actions that meet the “no net loss of three floodplain functions” standard but don’t fit precisely within the pathways outlined above.

The list of potential challenges and opportunities to develop alternative “off-ramp” approaches, outlined in Table 2, is still under development. This section will eventually include a set of alternative approaches, based on stakeholder feedback and agency team work; challenges and considerations that FEMA should take into account for implementation; and additional needs for support and/or resources for communities that might take these routes.

**Table 2: Overview of potential “off-ramps” currently under consideration**

Challenge	Opportunity
Water doesn't follow jurisdictional lines	Communities work together on watershed approach
Lots of land zoned for development in SFHA	Extra time/support to go through rezoning
Need for community-driven alternative that may not involve code changes	Outline process, template for documenting no net loss, approvals needed
Intersection with CRS – want to incentivize, but not binding	Identify minimum set of CRS actions that could add up to no net loss standard

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## Appendix A: Recommended Avoidance & Minimization Options<sup>5</sup>

Community Rating System (CRS) references included for participating communities

Categories	Options	Notes & Examples
<b>MAPPING ADDITIONAL HAZARDS</b> (CRS Activity 320)	Risk-based floodway	Methodology proposed in RPA 4
	Historical flood	
	Erosion hazards	
	Channel migration zone	
	500-year floodplain	
<b>OPEN SPACE PRESERVATION IN FLOODPLAIN</b> (CRS Activity 420)	Transfer into public ownership	E.g., parks and open spaces located in SFHA
	Conservation easement/deed restriction	Generally with public or non-profit ownership or easement holder
	Restoration of floodplain habitat	After rescindment of FEMA's previous policy, stakeholders suggest FEMA consider an alternative approach to streamlining approval of fish habitat restoration projects in the floodway
	Low-density zoning in SFHA	E.g., 1 unit per acre or less
	Prohibit subdivision that creates new lots without buildable site outside SFHA	
	Incentivize cluster development or other approaches that protect open space within SFHA	
	Density transfers/transfer of development rights	Washington County (but may present unique challenges under Oregon's land use planning system)
	Greenway/setback rules	
	Acquisition and relocation (CRS activity 520)	Portland's Johnson Creek willing seller program
	Restrict riparian vegetation removal for most types of development (e.g., via local environmental overlay) and require mitigation	
<b>HIGHER REGULATORY STANDARDS</b> (CRS Activity 430)	Open space requirement for planned unit developments	Happy Valley (primarily for erosion)
	Prohibit fill in part or all of floodplain	E.g., 10-year floodplain, 25-year floodplain, channel migration zone
	Prohibit new development in floodways	Likely exceptions: flood-compatible, water-dependent, water-related, or other public uses

<sup>5</sup> A more complete set of policy options collected from stakeholder discussion, including recommended state and federal actions, will be included in an additional appendix in the final implementation plan.

Categories	Options	Notes & Examples
	Prohibit any construction or grading changes in floodway	
	Prohibit new buildings in part or all of floodplain	
	Require compensatory storage (“balanced cut-fill”)	Metro area communities
	Prohibit critical facilities in SFHA or 500-year floodplain	
	Apply V-Zone standards in coastal A Zone	
	Apply floodway standards to part or all of SFHA	
	Apply SFHA standards to broader area (e.g., historical flood or 500-year floodplain)	Vernonia
	Require setback from edge of channel or floodway	Central Point
	Require shoreline setbacks based on average erosion rate	
	Prohibit new shoreline or channel stabilization projects	
	Prohibit new development that will have a significant negative impact on floodplain functions that cannot be mitigated	
	Environmental protection overlay zone	Portland
<b>STORMWATER MANAGEMENT</b> (CRS Activity 450)	Regulate post-construction runoff from new development or redevelopment (no increase in peak flow or volume of stormwater runoff for 10-year or greater storm)	Use of larger design storm better reflects future climate conditions
	Development and implementation of watershed master plan	
	Require or incentivize use of low-impact development or green stormwater management practices to maximum extent feasible	Salem
	Offsite management fee for stormwater that can’t meet standards on site	Portland
	Impervious surface limitations in part or all of SFHA	Troutdale
<b>FLOODPLAIN MANAGEMENT PLANNING</b> (CRS Activity 510)	Development and implementation of floodplain management plan or natural hazard mitigation plan	
	Adoption of plans that protect ESA listed species or other natural functions	