

## No Net Loss of Shoreline Ecological Functions

Presentation to Council's Natural  
Resources Committee, 9/10/19



## Introduction

- The Shoreline Management Act (SMA) provides a broad policy framework for protecting the natural resources and ecology of the shoreline environment.
- The SMP Guidelines establish the standard of “no net loss” of shoreline ecological functions and ecosystem-wide processes as the means of implementing that framework through shoreline master programs.
  - WAC 173-26-186(8) directs that master programs “include policies and regulations designed to achieve no net loss of those ecological functions.”

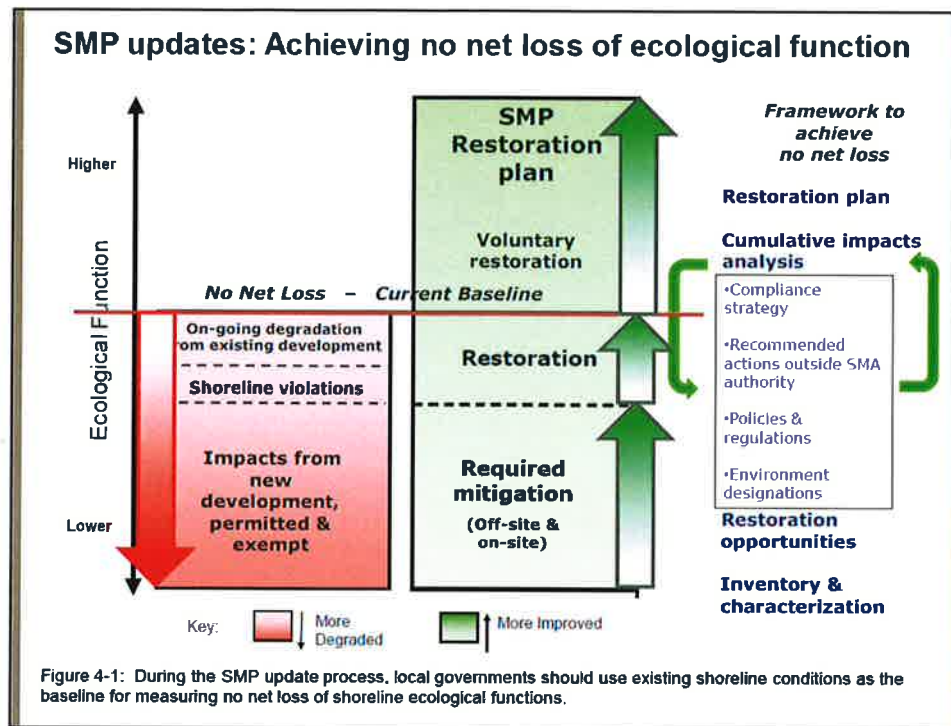
## What does No Net Loss Mean?

No net loss incorporates the following concepts:

- 1. **The existing condition of shoreline ecological functions should not deteriorate due to permitted development.**
  - The existing condition or baseline is documented in the shoreline inventory and characterization.
  - Shoreline functions may improve through shoreline restoration.
- 2. **New adverse impacts to the shoreline environment that result from planned development should be avoided.**
  - When this is not possible, impacts should be minimized through mitigation sequencing.
- 3. **Mitigation for development projects alone cannot prevent all cumulative on-going impacts and shoreline violations, so restoration is also needed.**

## What does “No Net Loss” Mean?

- 1. No net loss should be achieved over time by:
  - establishing environment designations,
  - implementing SMP policies and regulations that protect the shoreline, and
  - restoring sections of the shoreline.
- 2. Based on past practice, current science tells us that most, if not all, shoreline development produces some impact to ecological functions.
- 3. However, *the recognition that future development will occur is basic to the no net loss standard.*
  - The challenge is in maintaining shoreline ecological functions while allowing appropriate new development and ensuring adequate land for preferred shoreline uses and public access.
- 4. With due diligence, local governments can properly locate and design development projects and require conditions to avoid or minimize impacts.



## What does “No Net Loss” Mean?

- Over time, the **existing condition of shoreline ecological functions should remain the same** as when the SMP was adopted in 2007.
- Simply stated, the no net loss standard is designed to **halt the introduction of new impacts** to shoreline ecological functions resulting **from new development** by requiring mitigation.
- However, over all, protection, restoration, and mitigation are needed to achieve no net loss.
- **Restoration** is the only mechanism by which we can **improve** shoreline functions and ecosystem-wide processes **over time**.
- Local governments must **achieve this standard** through both the SMP **planning process** and by appropriately **regulating individual developments** as they are proposed in the future.

## How to Demonstrate No Net Loss in the *Planning Process*

Local governments show that their SMP will result in no net loss of ecological function by completing several tasks in the *comprehensive* SMP update process, including:

- ✓✓ Shoreline inventory and characterization.
- ✓✓ Shoreline use analysis.
- ✓✓ Shoreline management recommendations.
- ✓✓ Restoration plan.
- ✓✓ Cumulative impacts analysis.
- ✓✓ No net loss summary.

## State Certification of NNL

- To approve our 2007 *comprehensive* SMP, Ecology's Director formally concluded that when implemented over its 20-year planning horizon it would result in "no net loss of ecological functions necessary to sustain shoreline natural resources."

## How to Demonstrate No Net Loss in the *Permit Process*

- During the planning process, incomplete information about a potential future development and its impacts limits our ability to address no net loss.
- To close this information gap, **unanticipated development impacts are identified through more detailed, site-specific information received** at the permit review level.
- When implementing the SMP, **mitigation sequence principles** (first avoiding, then minimizing and compensating for ecological impacts) **are applied as individual shoreline project applications are reviewed and approved, conditioned, or denied.**
- **Project review completes the Guidelines' combined planning and permit review framework for achieving no net loss.**
  - It assures that unanticipated impacts will still be subject to a cumulative impacts evaluation as applications for shoreline exemptions, conditional uses, and shoreline permits are reviewed.

## No Net Loss and Restoration

- The concept of no net loss of shoreline ecological functions is rooted in the Act and in the goals, policies, and governing principles of the state's shoreline guidelines.
- These principles suggest that **no net loss is achieved primarily through regulatory approaches** and that restoration occurs mainly via goals, policies, and voluntary or incentive-based mechanisms.
- It is also important to note that more than simply preventing further loss of ecological functions, **master program provisions must also "...achieve overall improvements in shoreline ecological functions** over time when compared to the status upon adoption of the master program."

## No Net Loss and Restoration

- The **mandate to improve functions** over time provides the basis for restoration planning and creates a distinction between mitigation and restoration.
- As mentioned, **applicants** for shoreline permits **must fully mitigate new impacts** caused by their proposed development.
- However, **applicants are not required to restore post permitted ecosystem damages** as a condition of permit approval.
  - Permit applicants will not be required to implement the restoration measures identified in the plan as mitigation for project impacts; **but they may elect to** implement elements of this plan as mitigation for shoreline development if appropriate.
  - And they may be required to **mitigate for recurring impacts**

## NNL Monitoring – State Recommendation

- State guidance identifies 3 types of NNL monitoring:
  - **Permit implementation monitoring** – *done by local jurisdictions*
    - Whether the local government issued a permit consistent with the regulations; and
    - Whether the projects as built comply with all of the conditions noted in the permit.
  - **Permit effectiveness monitoring** – *done by local jurisdictions*
    - Same monitoring, but over a longer period of time.
    - Can also address procedural improvements to improve efficiency of the permit system.
    - The data is not about the individual permit, but whether and how to adaptively manage the system.
  - **Validation monitoring** – *best done by regional entities*
    - Whether functions and values are being protected, and
    - Whether we are achieving no net loss of the ecosystem.
    - Requires extensive scientific research that is probably beyond the resources of most local governments



## No Net Loss Monitoring

- PDS is already:
  - Monitoring critical areas (in partnership with others, see 10/29/18 memo)
  - Improving our Permit Implementation monitoring, and
  - Starting to develop Effectiveness monitoring in conjunction with implementing the our new permitting system
- To develop a new Validation Monitoring program, staff provided you with a cost estimate of \$250,000 to \$400,000 and a ¼-FTE, plus an ongoing \$100,000 and a ¼-FTE for updating that every 5 years.

## Baseline Update Costs

- To develop a new Validation Monitoring program, staff provided you with a cost estimate of \$250,000 to \$400,000 and a ¼-FTE, plus an ongoing \$100,000 and a ¼-FTE for updating that every 5 years.
- Given this unbudgeted cost, and because the State advises against individual jurisdictions performing a Validation Monitoring program, PDS is moving forward with improving our Permit Implementation monitoring and developing a new Effectiveness system.
- To evaluate changes to the *shoreline baseline conditions*, our SMP consultant estimates that it would cost an additional **\$70,100 and push our SMP adoption date past the June 2020 deadline** by several months.

## Additional Info

- As mentioned, based on our regulatory approach and restoration plan, Ecology's Director *formally concluded that our 2007 SMP will result in "no net loss of ecological functions necessary to sustain shoreline natural resources"* over the 20-year planning horizon.
- **PDS already:**
  - Requires cumulative impact analysis and mitigation sequence for all project permits.
  - Created standardized mitigation for single family residences and is working on standard mitigation measures for all development.
  - Tracks and monitors shoreline permits to ensure regulations are being implemented consistently and that direct impacts are avoided or mitigated (Permit Implementation).
  - Is developing a Permit Effectiveness Monitoring system



## 2007 SMP Restoration Plan

- What could be improved is reporting progress on our SMP Restoration Plan.
- That plan identifies 120 restoration opportunities in areas that are degraded, have impaired functions, or have high restoration potential.
- Partners include anyone who helps with restoration efforts:
  - WRIA 1 Watershed Management Board (salmon recovery)
  - Lummi Nation & Nooksack Tribe
  - Cities, Drainage Districts, Conservation District, etc.
  - Nonprofits such as NSEA, Re-Sources
  - State Agencies such as WDFW, Ecology, DNR
- The County and its partners have done much work in these areas, but we could better compile the data in terms of what's being accomplished.

## Restoration Examples

WMU	Action	Who
North Fork Nooksack	Create stable islands in appropriate locations by installing log jams to restore lateral and vertical channel stability, increase hydraulic roughness, and promote off-channel habitat development.	Nooksack Tribe
Middle Fork Nooksack	Enhance riparian cover to mitigate temperature increases.	Conservation District
Lower Mainstem Nooksack	Integrate floodplain management with habitat recovery.	Public Works
Lynden North	Reconnect floodplain wetlands in lower Bertrand Creek (SMP inventory reaches 1-4) to the creek and planting with native trees and shrubs to enhance habitat value for terrestrial and aquatic wildlife.	City of Lynden
Lummi Bay	Prevent further infilling of coastal wetlands and marsh.	Lummi Nation

## Staff Recommendation

- Continue to support staff in
  - Improving our Permit Implementation monitoring, and
  - Developing an Permit Effectiveness monitoring system.
- This includes:
  - Developing a regular monitoring and reporting schedule
  - Reviewing our permit tracking software to ensure that will produce the desired data
  - Developing a permit sampling protocol to ensure meaningful statistical analysis
  - Having a protocol for regularly incorporating geographic information into our GIS system
  - Developing a reporting template, and
  - Develop an adaptive management protocol for addressing any deficiencies found.

## Staff Recommendation

- Develop a protocol for monitoring progress on our SMP Restoration Plan, including periodic reporting to Council and the public.
  - This would require PDS to coordinate with other County departments, agencies, and tribes to report on restoration activities since 2007.
  - Could be incorporated into the monitoring reporting that PDS is implementing for the CAO to develop one cohesive Monitoring Report.
- **No additional funding would be required**