

# The *New* Whatcom County SMP

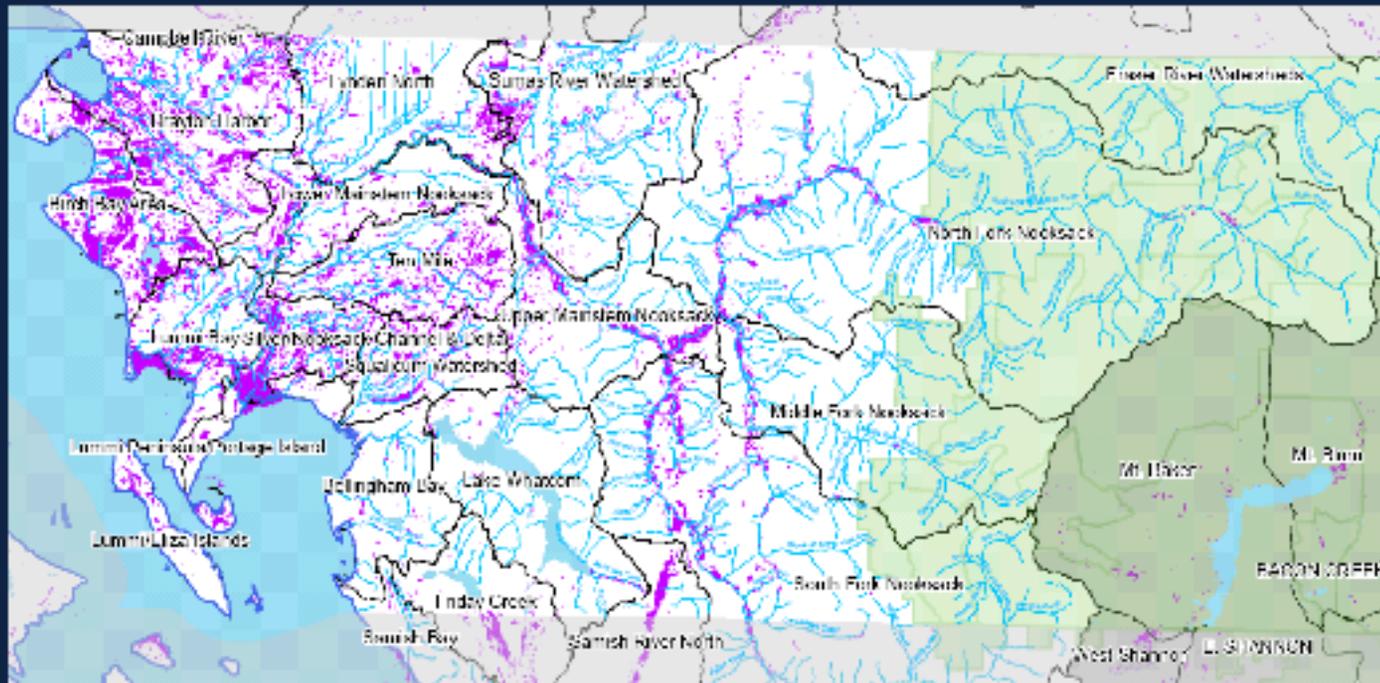
- *THE DEVIL'S IN THE DETAILS*



# WHATCOM COUNTY SMP

- Provisions derived from Best Science
- Shoreline Designations and Land Uses integrated with GMA Comp Plan & CAO
- Intensive public involvement throughout
- Excellent, extensive documentation
- Exemplary collaboration by agencies, tribes, and stakeholders

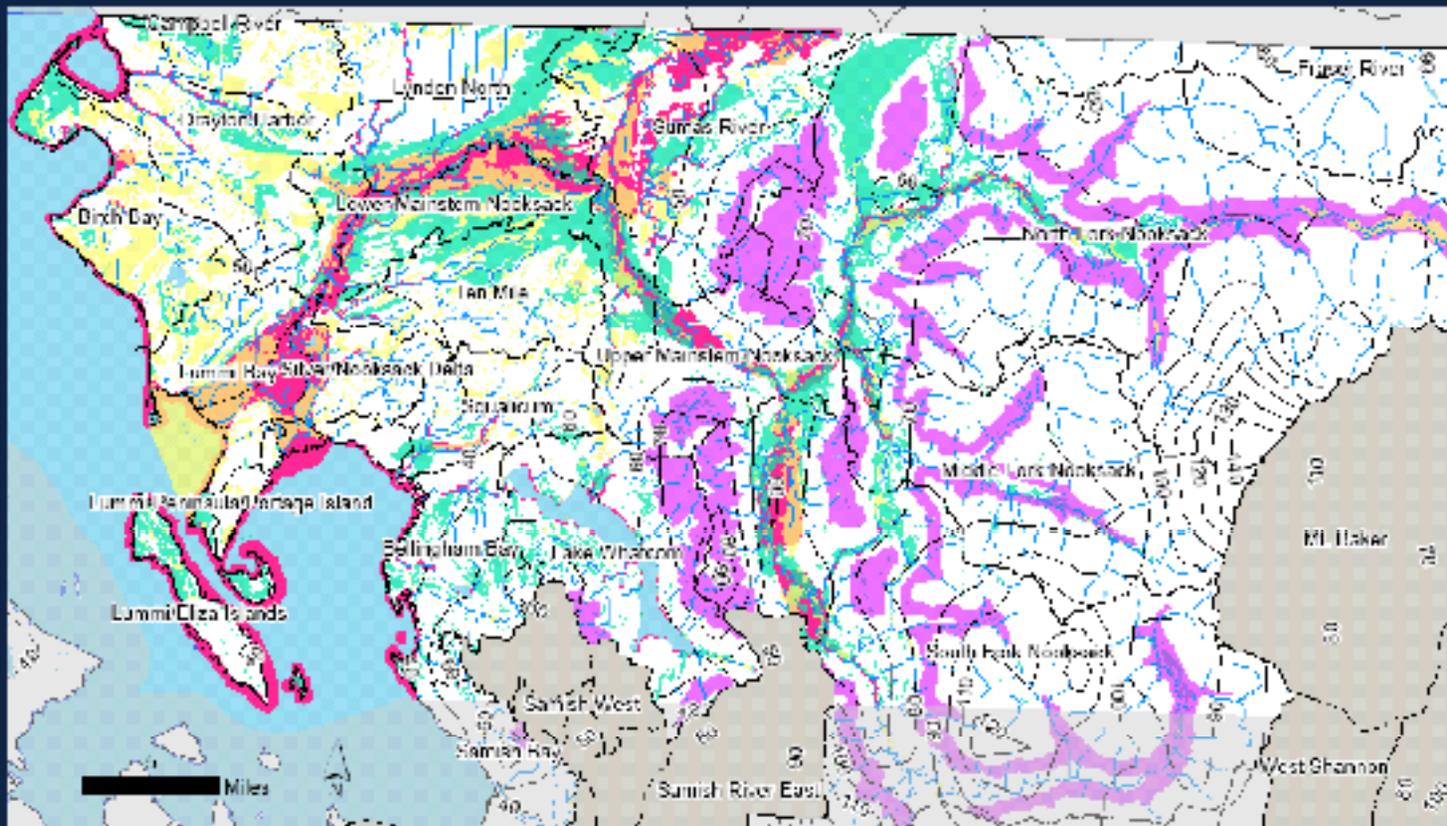
# County-wide Analysis



Aquatic Resources of Whatcom County- Marine Nearshore, Lakes, Wetlands, and Rivers

- High Order Streams
- Wetlands (OCAP, NWI, PHS)
- Watershed Management Units
- Water Bodies (WA DNR 2001)
- Marine Shoreline





### Process Score - Hydrology Mechanisms

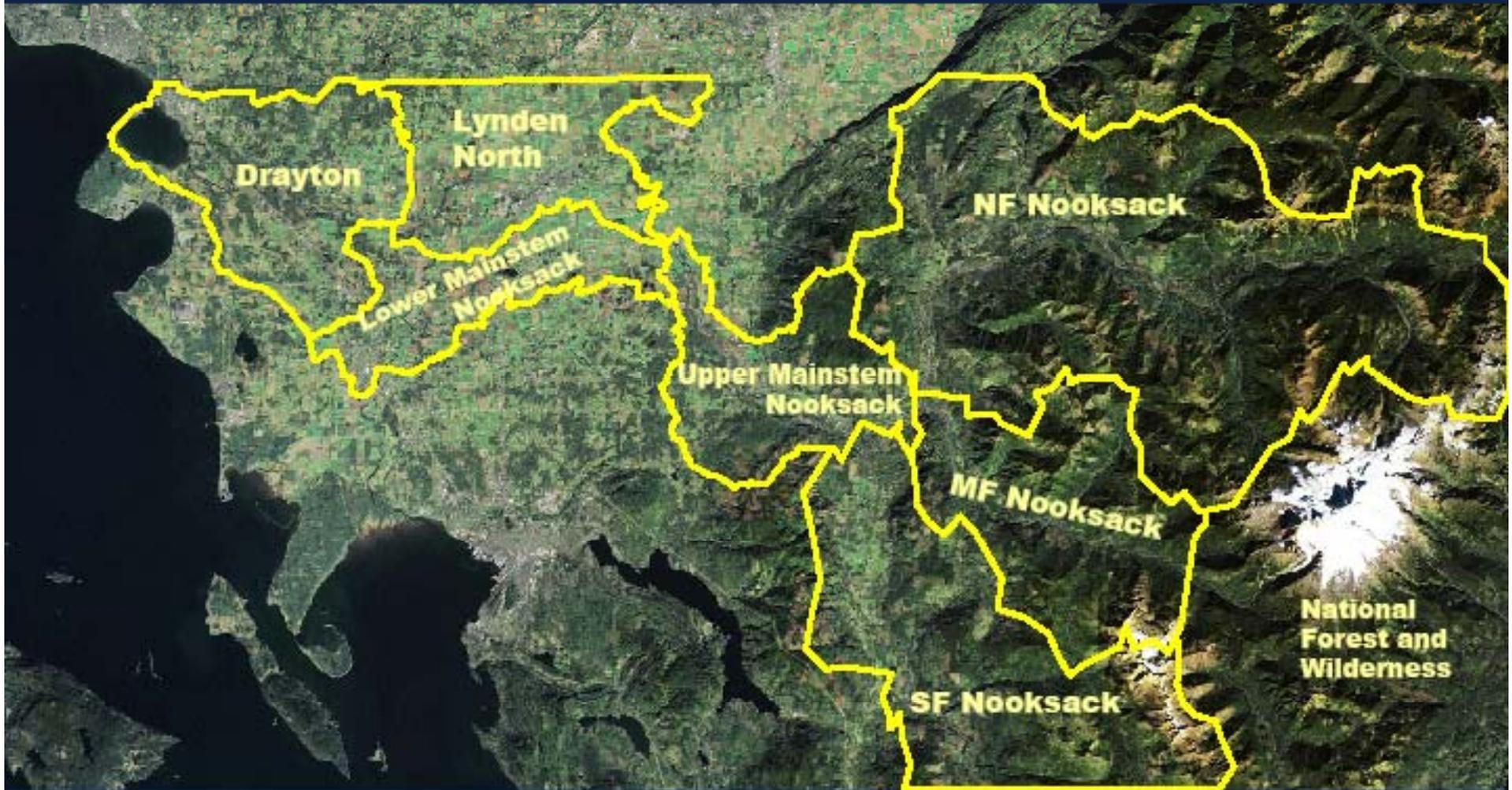
- |   |   |
|---|---|
|  Flood Desynchronization |  Precipitation 10" intervals |
|  Flood Plain             |  No/incomplete Data          |
|  Infiltration            |  Watershed Management Units  |
|  Rain on Snow            |   |

Map layers are slightly transparent so overlapping areas appear a different color than on legend.

#### Mechanisms Important to the Hydrologic Process

- Infiltration capacity
- SSURGO soils "Drainage Class" (excessively drained, somewhat excessively drained, well drained)
- USGS 10m DEM Slope < 8% - 1
- Mazon Snow - WA DNR
- Flood Desynchronization - DNR Hydro24k lakes + Goshute National Wetlands Flood + low Storage and Desynchronization Function
- Flood Plain - FEMA 100 yr floodplain

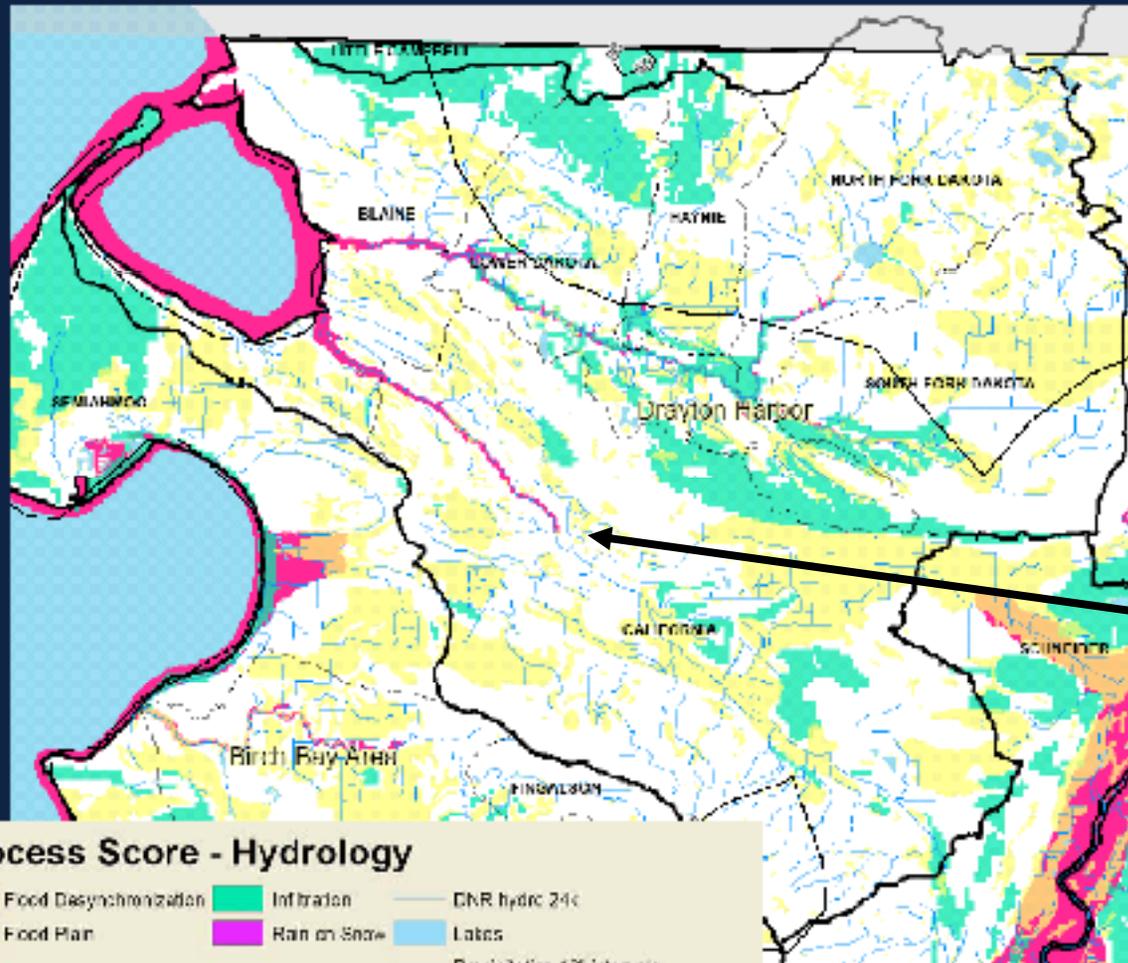




# Watershed Management Units



# Drayton – Principal Areas



## Hydrology

California  
Creek





**Figure 2: California Creek bio-physical features and reach breaks**

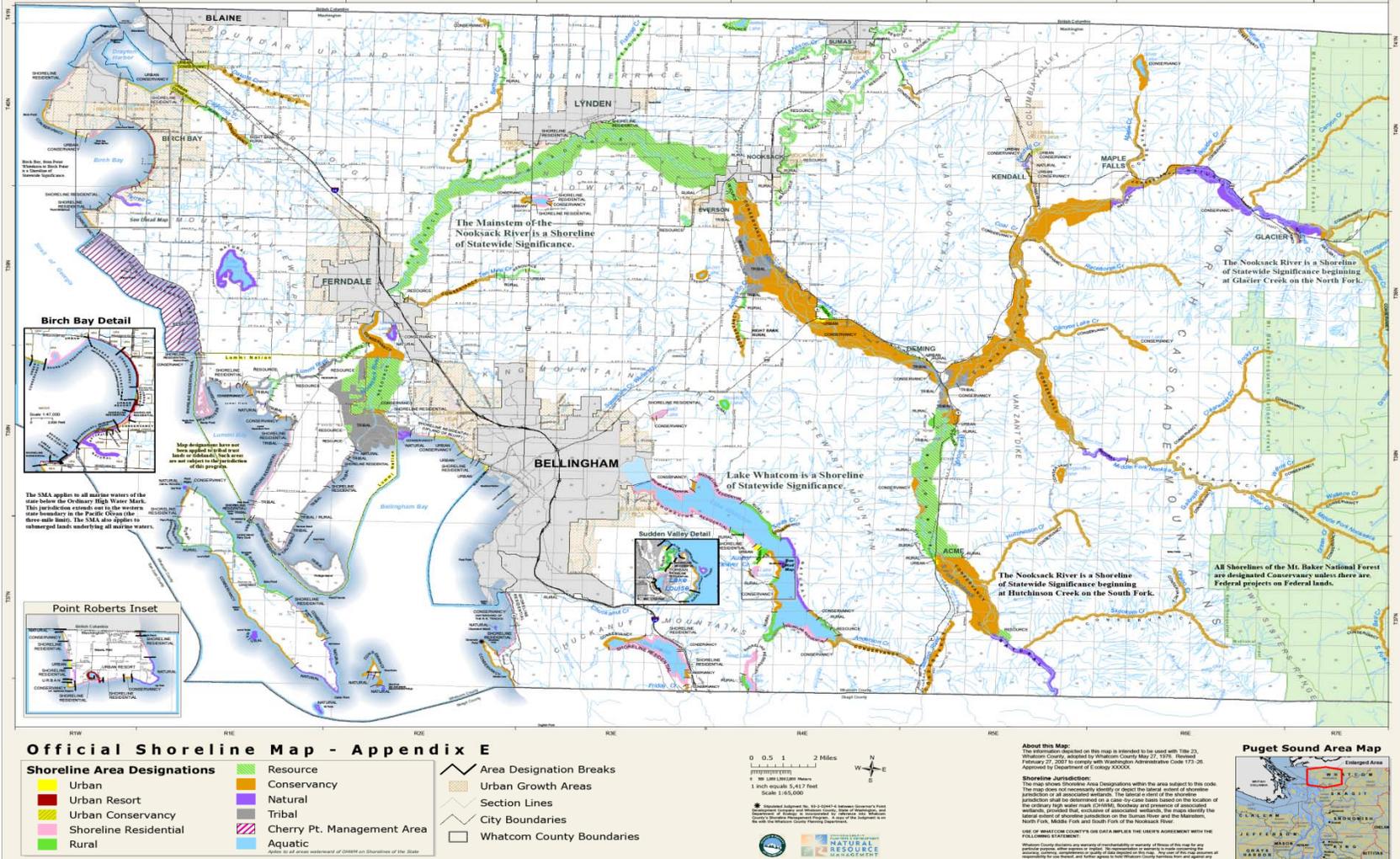


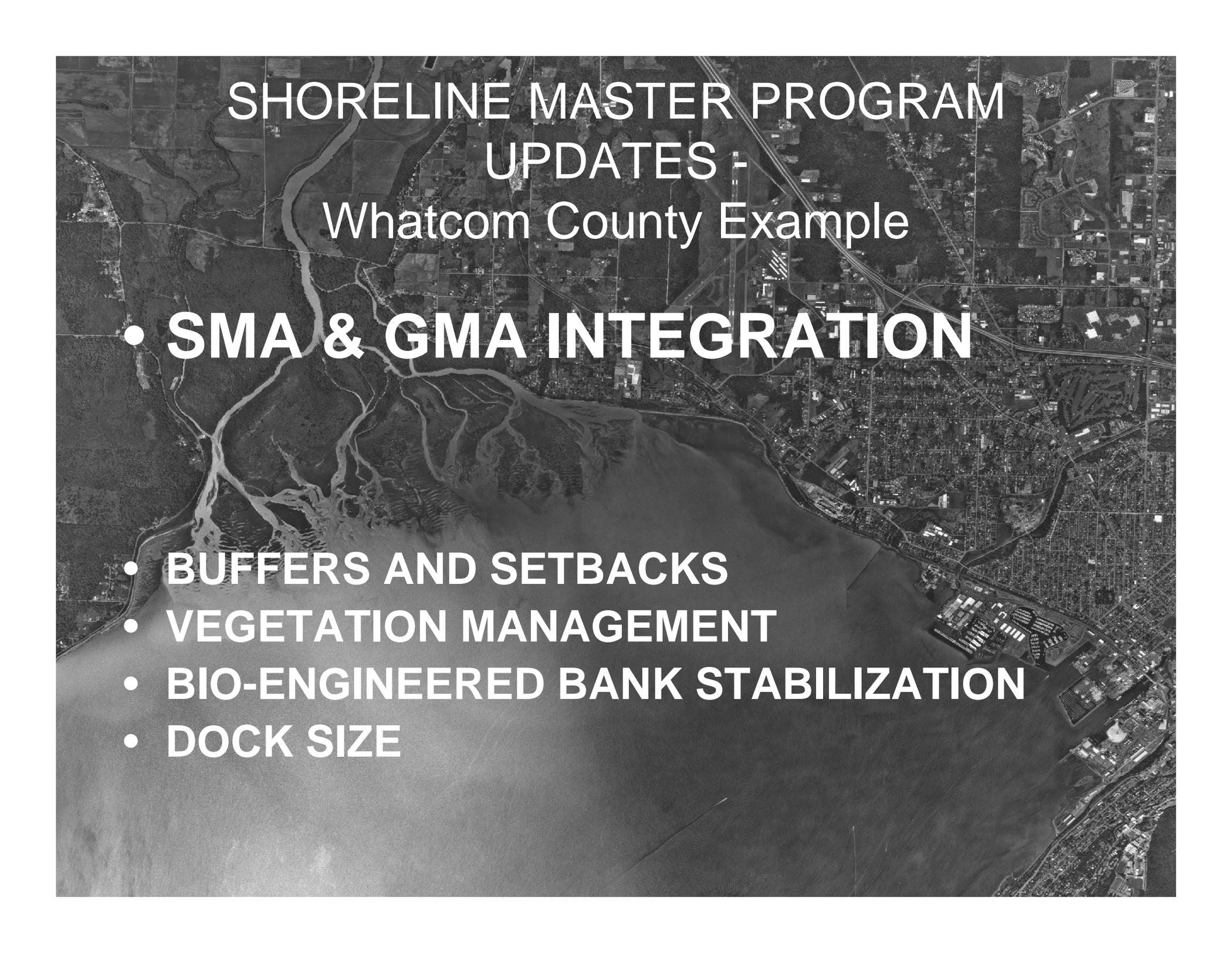




# Science-Based Results

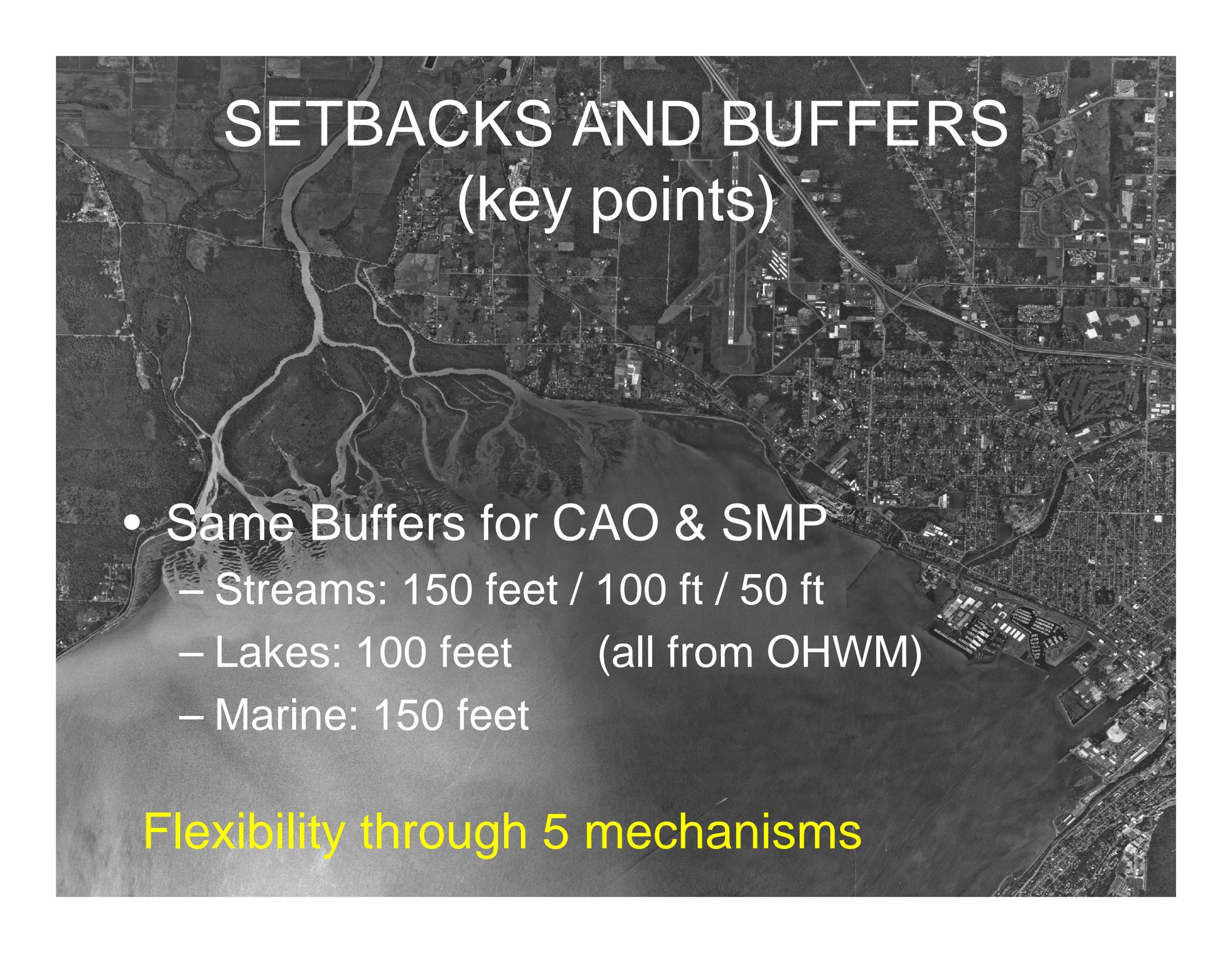
## Whatcom County Shoreline Area Designations



An aerial photograph of a coastal area, likely in Whatcom County, showing a river delta with multiple channels flowing into a large body of water. The land is a mix of agricultural fields, forests, and urban development, including roads and buildings. The text is overlaid on the image in white, bold, sans-serif font.

# SHORELINE MASTER PROGRAM UPDATES - Whatcom County Example

- **SMA & GMA INTEGRATION**
- **BUFFERS AND SETBACKS**
- **VEGETATION MANAGEMENT**
- **BIO-ENGINEERED BANK STABILIZATION**
- **DOCK SIZE**



# SETBACKS AND BUFFERS (key points)

- Same Buffers for CAO & SMP
  - Streams: 150 feet / 100 ft / 50 ft
  - Lakes: 100 feet (all from OHWM)
  - Marine: 150 feet

Flexibility through 5 mechanisms



- 150 ft Marine Buffer (red line)

- House in compliance

- Lower road and clearing within buffer is non-conforming



- 150 ft Marine Buffer (red line)

- 10 ft setback (yellow line)

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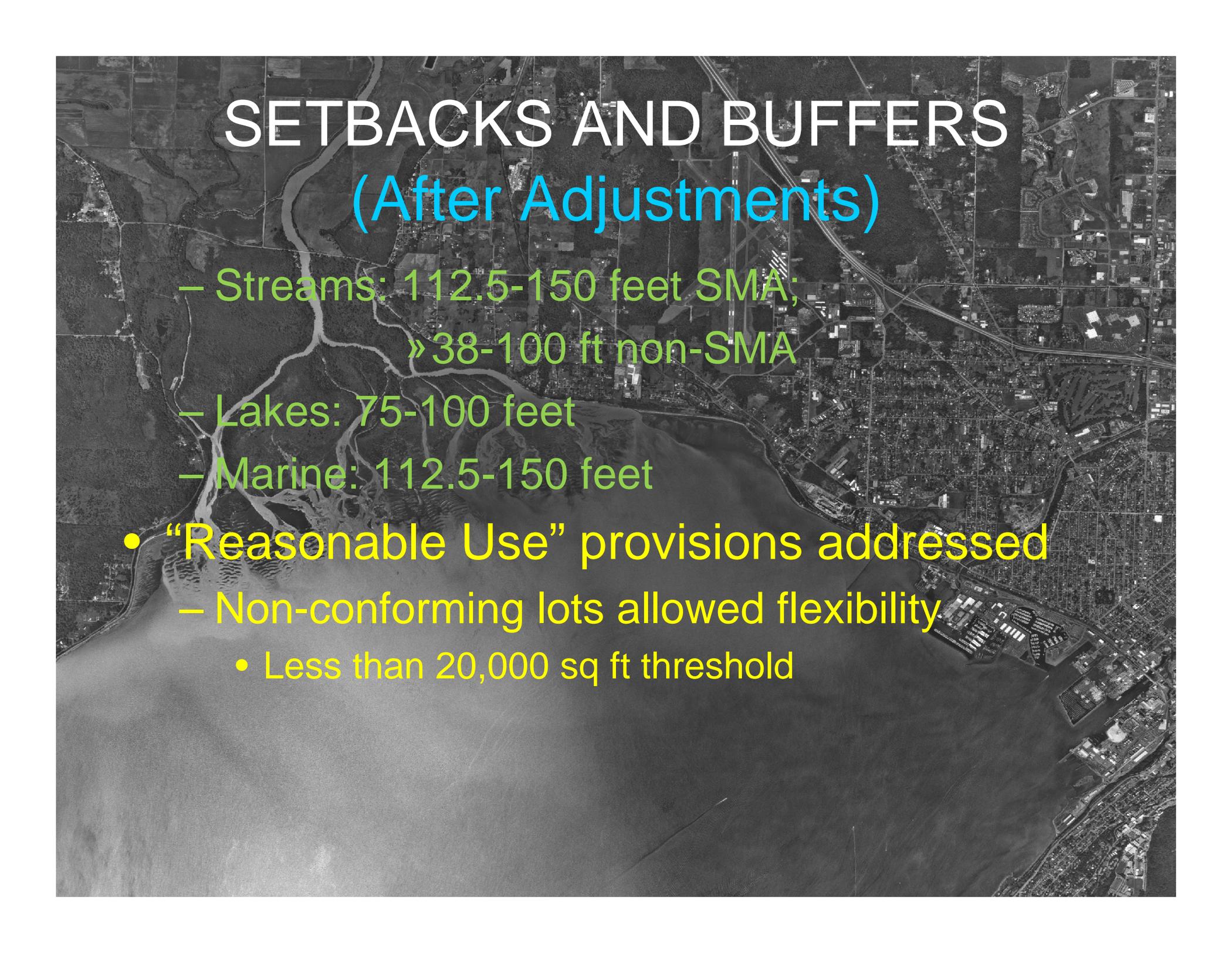
- Slope below stripped of vegetation and destabilized

# Buffer Adjustments

## *Two Mechanisms*

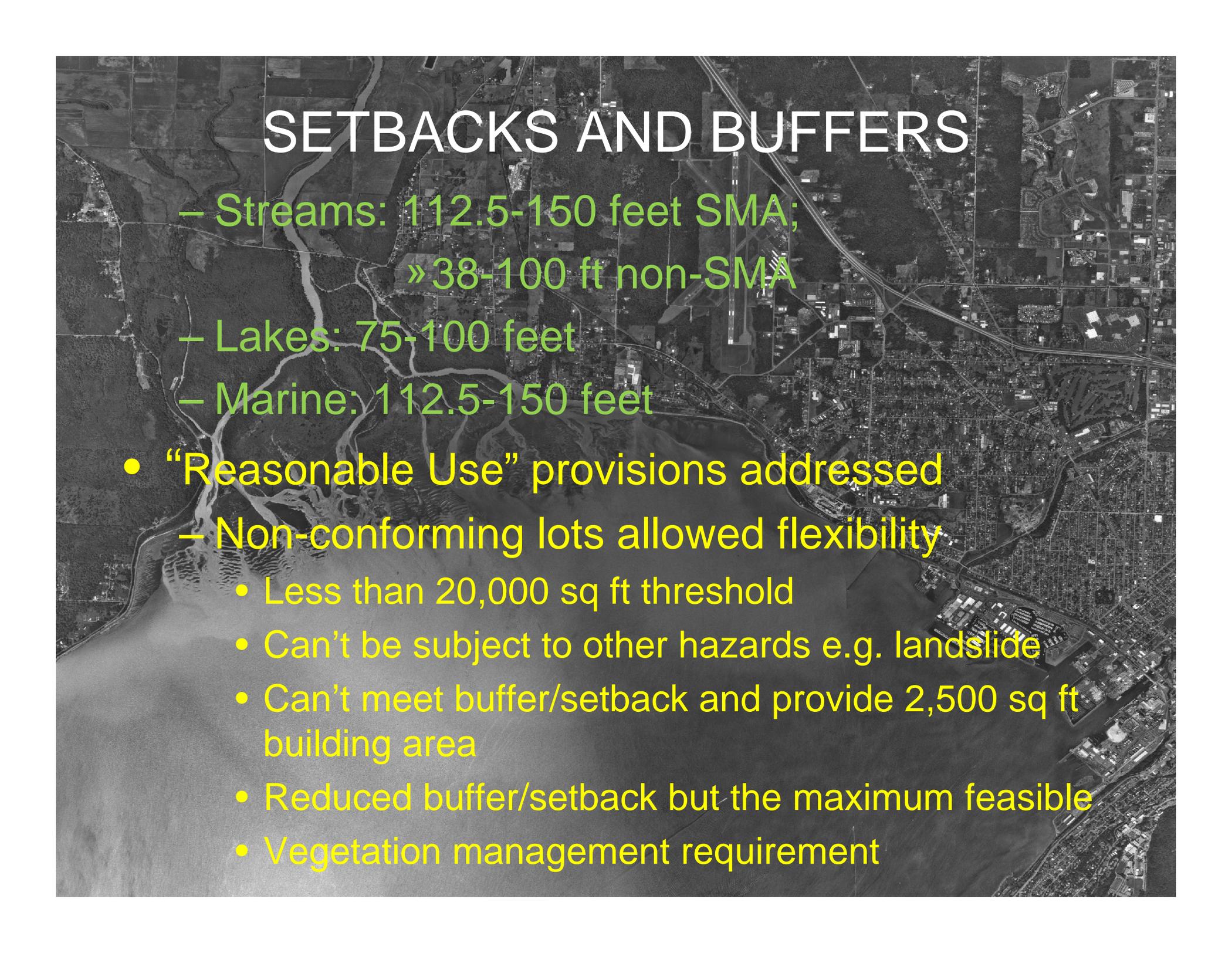
- Averaging – administratively, consistent with criteria:
  - » Equal or greater total area
  - » Equal or better habitat function
  - » Stable slope less than 30%
  - » Width not less than 75% standard
    - » Marine & river – 112.5 ft / 75 ft / 37.5 ft
    - » Lakes – 75 ft
- Reduction – with avoidance, minimization & mitigation
- less than 75% requires shoreline variance





# SETBACKS AND BUFFERS (After Adjustments)

- Streams: 112.5-150 feet SMA;  
» 38-100 ft non-SMA
- Lakes: 75-100 feet
- Marine: 112.5-150 feet
- “Reasonable Use” provisions addressed
  - Non-conforming lots allowed flexibility
    - Less than 20,000 sq ft threshold



# SETBACKS AND BUFFERS

- Streams: 112.5-150 feet SMA;  
» 38-100 ft non-SMA
- Lakes: 75-100 feet
- Marine: 112.5-150 feet
- “Reasonable Use” provisions addressed
  - Non-conforming lots allowed flexibility
    - Less than 20,000 sq ft threshold
    - Can't be subject to other hazards e.g. landslide
    - Can't meet buffer/setback and provide 2,500 sq ft building area
    - Reduced buffer/setback but the maximum feasible
    - Vegetation management requirement

# Vegetation Management

## regulations for non-conforming lots

- Maximum setback/buffer feasible
- Two management zones – split equally
  - Inner – most protective nearest shore
  - Outer – more flexibility farthest from shore
    - Up to 2,500 sq ft building area – includes home, appurtenances, driveway, landscaping, etc.
    - Does not include septic drainfield system
- Clearing limited to minimum necessary to accommodate residential development

# INNER MANAGEMENT ZONE

- An area consisting of the shoreward half of the available buffer.
  - Lawn or turf is prohibited. Understory consisting of native groundcover and shrubs shall be provided.
  - Native trees shall be provided.

# OUTER MANAGEMENT ZONE

- An area from the upland edge of the inner management zone to the outermost edge of the buffer.
  - Same as inner buffer (native understory & trees), provided that on slopes of twenty-five percent (25%) or less, lawn, turf, ornamental vegetation or gardens may be allowed on up to ten percent (10%) of the area or 500 square feet, whichever is greater.
- Lawn or turf prohibited on slopes greater than twenty-five percent (25%).



- Small lot provision
- Existing SFR's within 50 ft of building site
- Common setback and buffer lines
- 15 ft minimum buffer in all cases



- Setback
- Buffer

- OHWM



- Expansion allowed in this area

- Setback

- Buffer

- Restricted expansion area

- OHWM



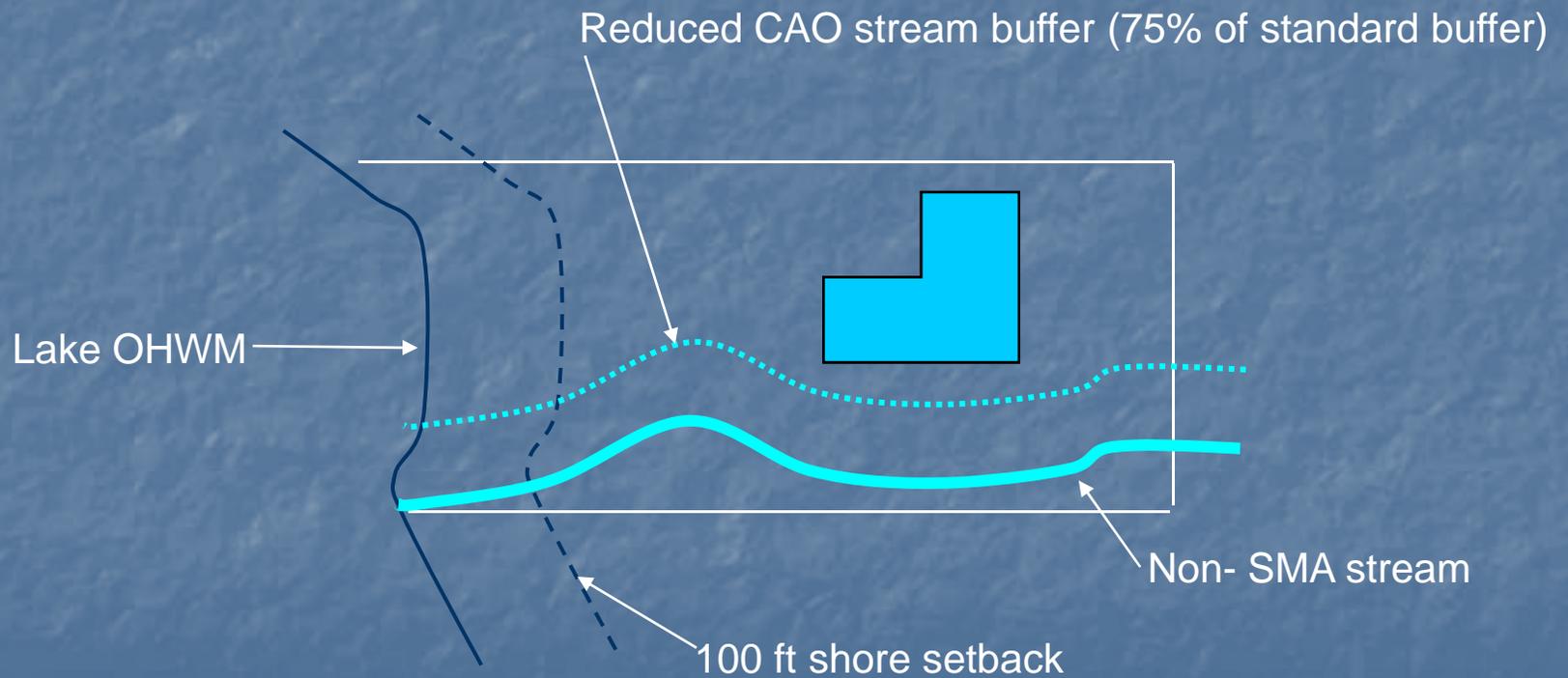
- Expansion allowed in this area
- Setback
- Buffer
- Restricted expansion area
- Vegetation maintenance required
- OHWM



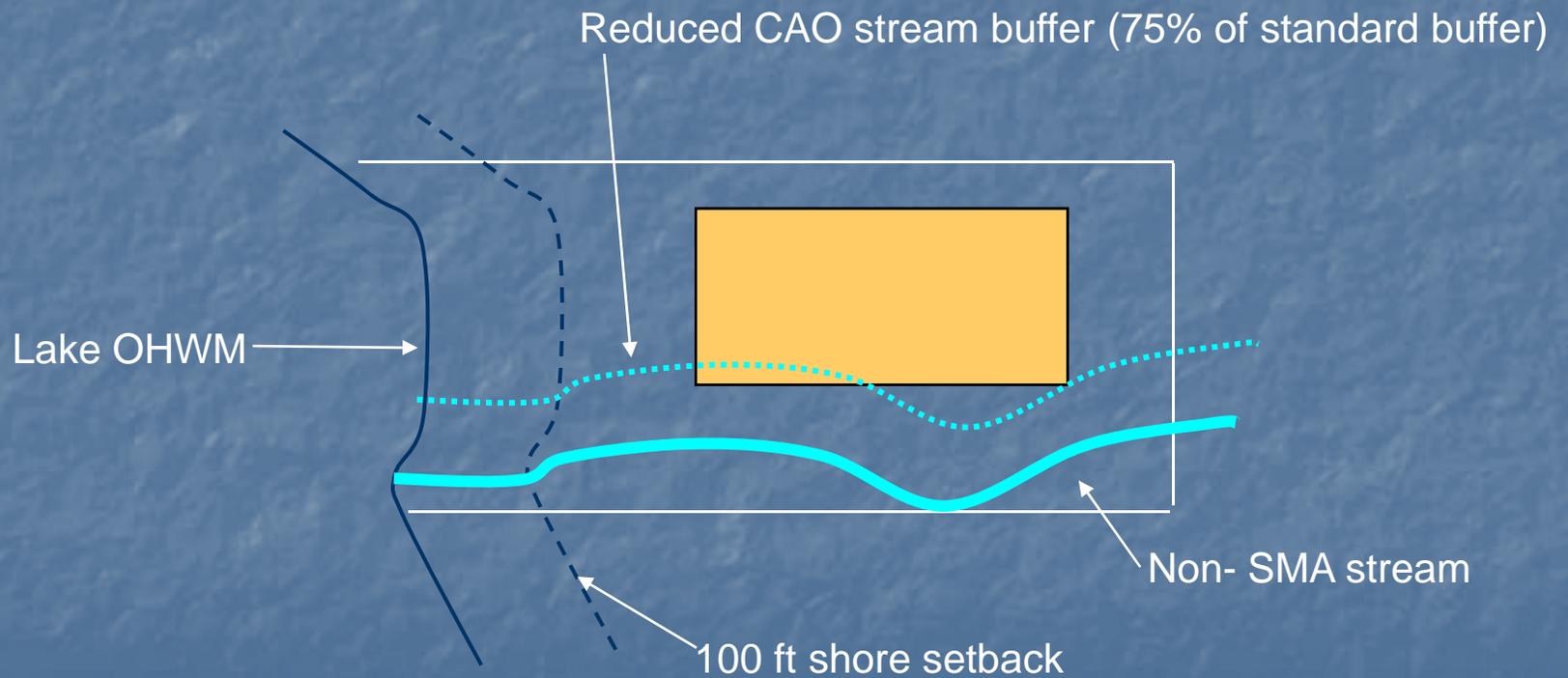
Setback/Buffer

- Reviewed as CUP
- Reviewed as Variance

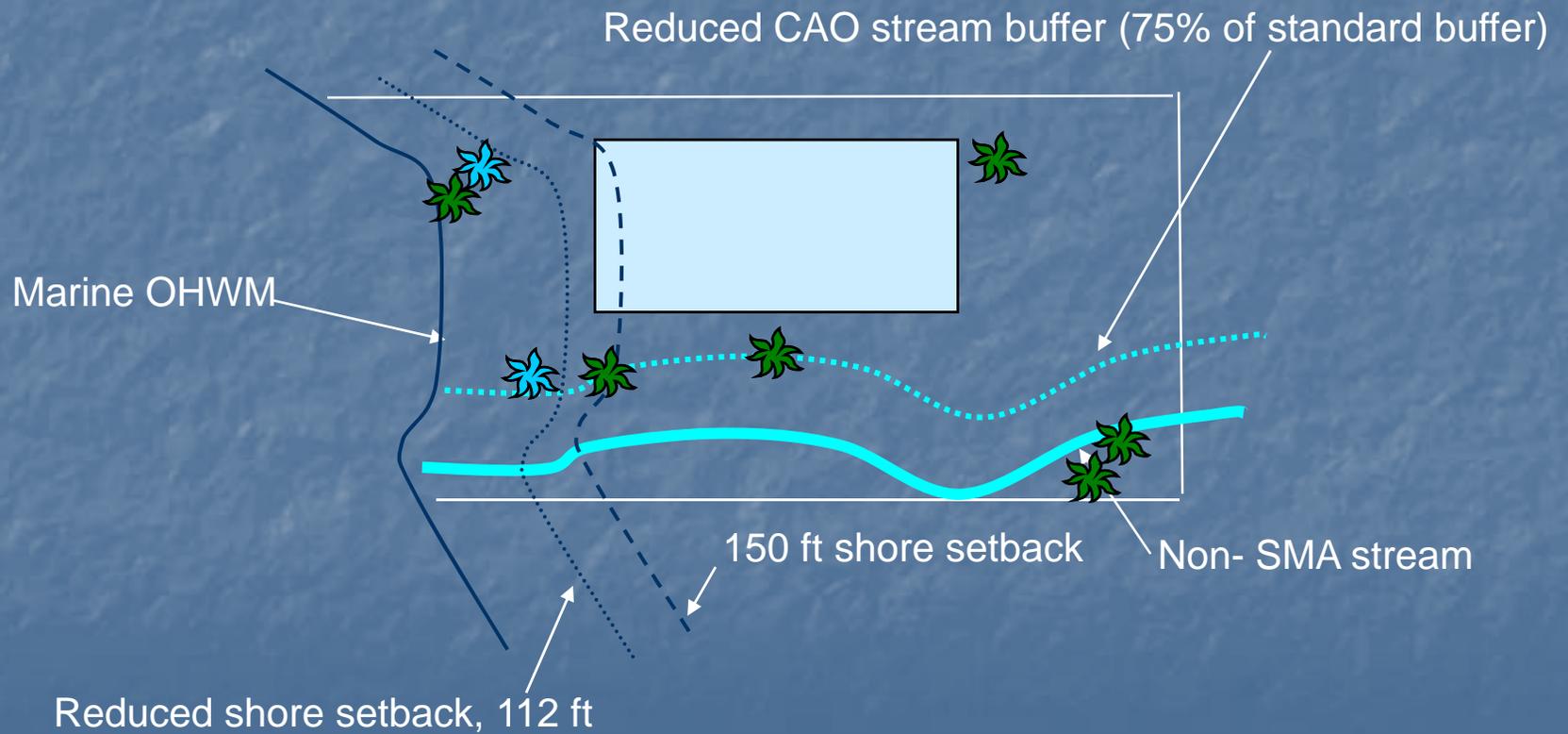
# Is a Variance Required?

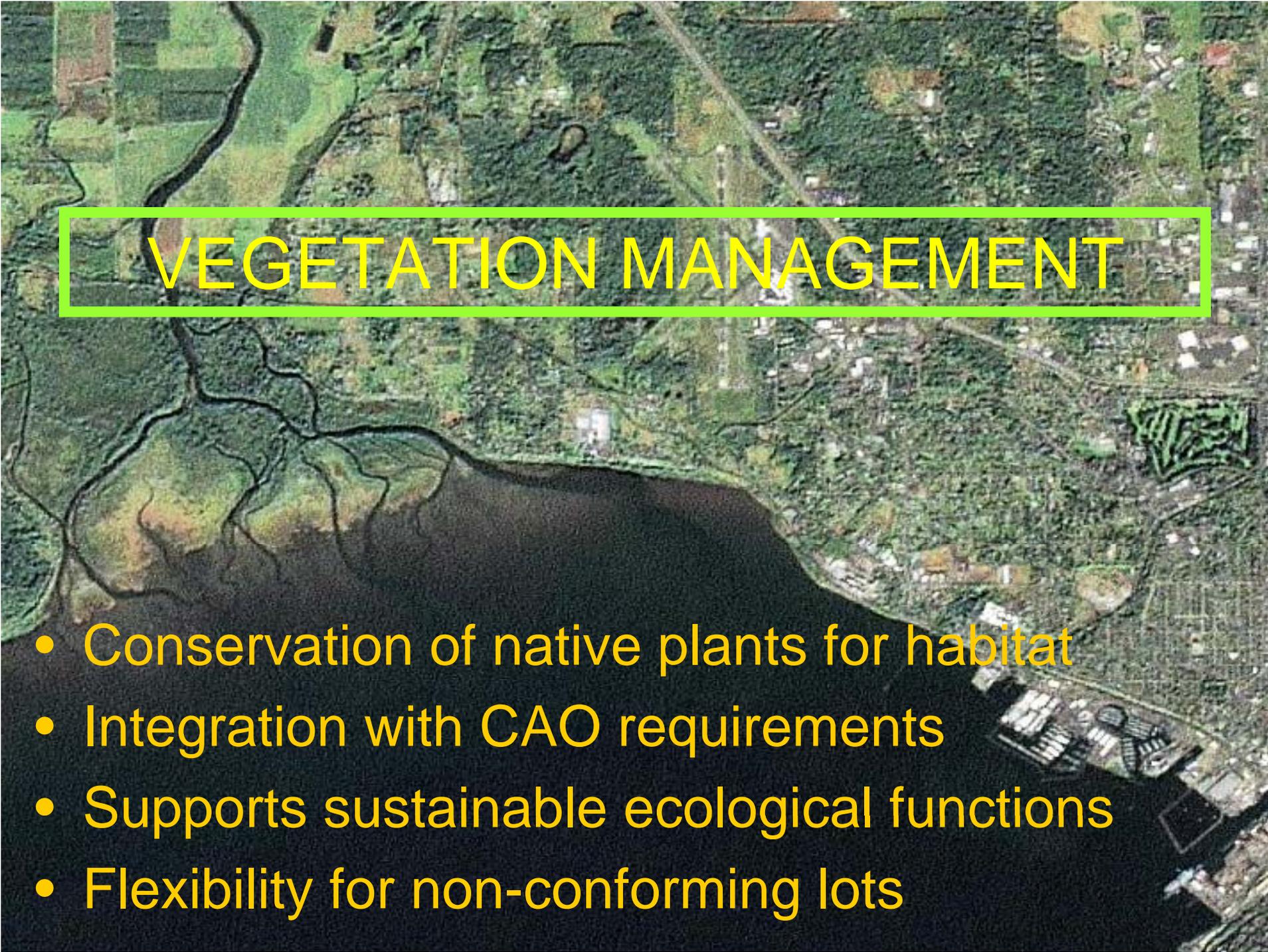


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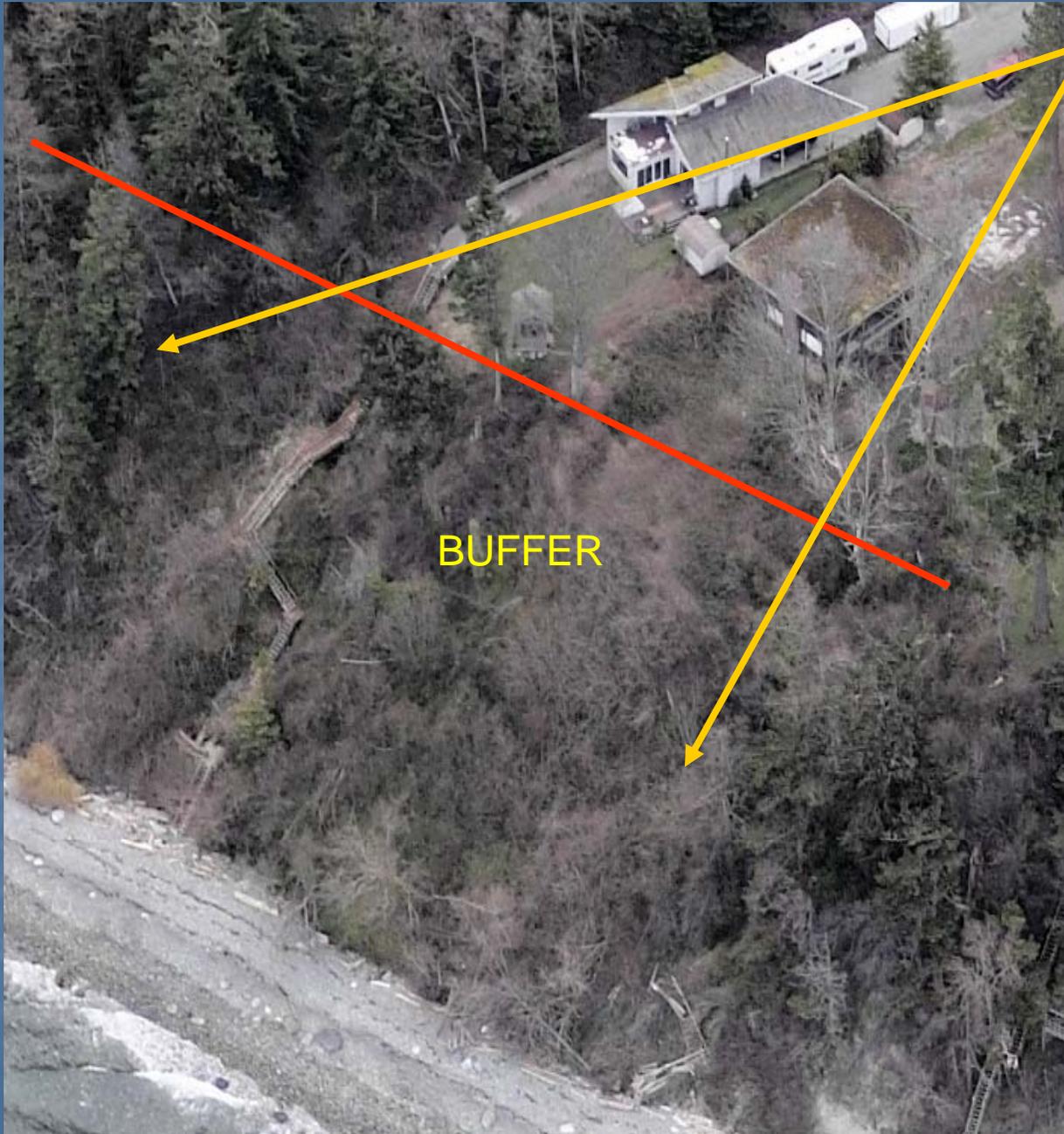




# VEGETATION MANAGEMENT

- Conservation of native plants for habitat
- Integration with CAO requirements
- Supports sustainable ecological functions
- Flexibility for non-conforming lots





■ Native vegetation provides multiple ecological functions:

- Slope stability
- WQ filtration
- Wildlife habitat
- Insect and organic debris for marine species
- Cover from predators
- Shade for temperature sensitive species e.g. forage fish eggs
- Micro-climate



Slope failure  
resulting from  
poor vegetation  
management

- Lawn and  
concrete  
terraces
- Improper  
drainage  
improvement



■ Failed concrete terrace

■ Undersized improper drain pipe materials

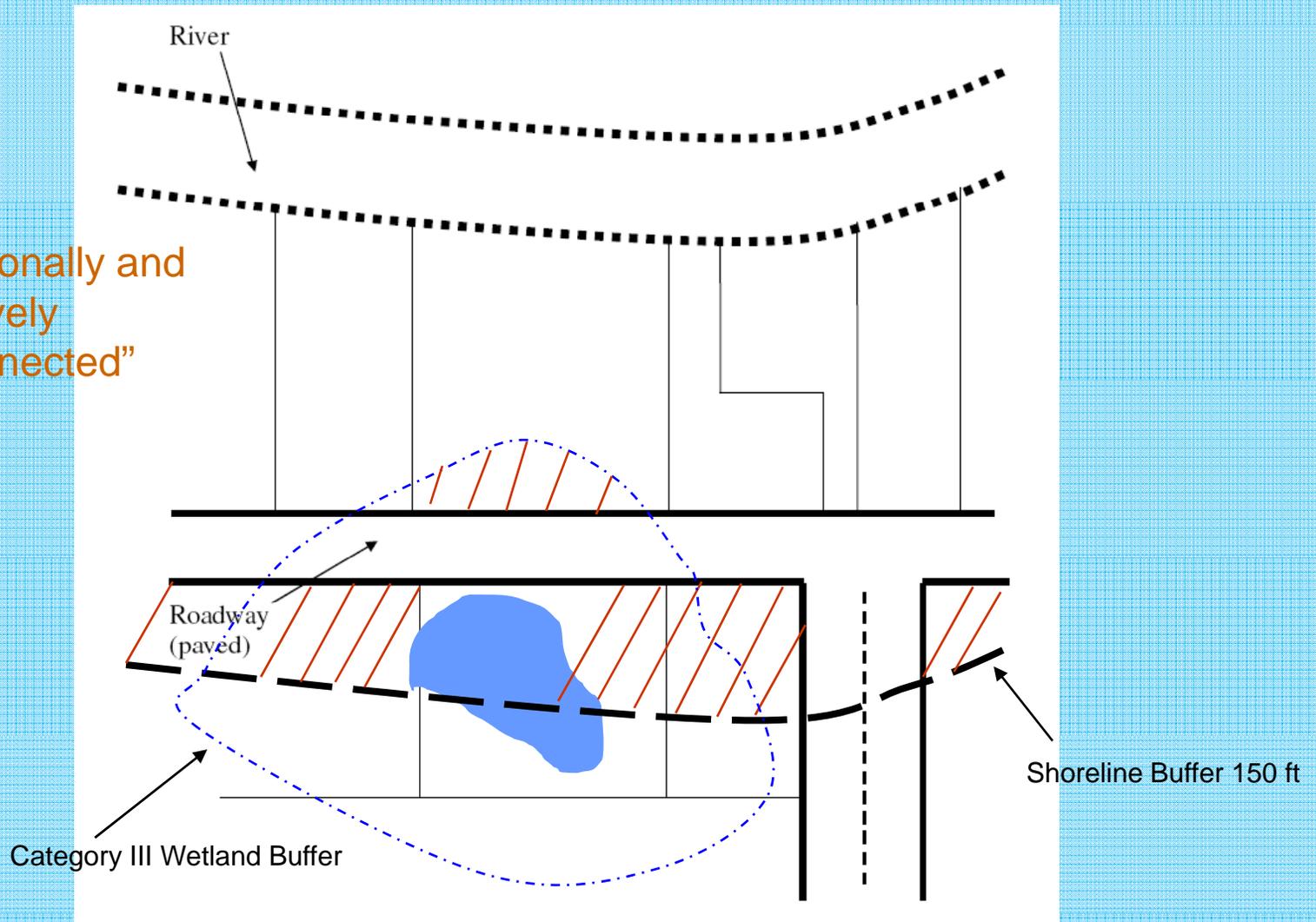
■ Lack of and shallow rooted plant materials

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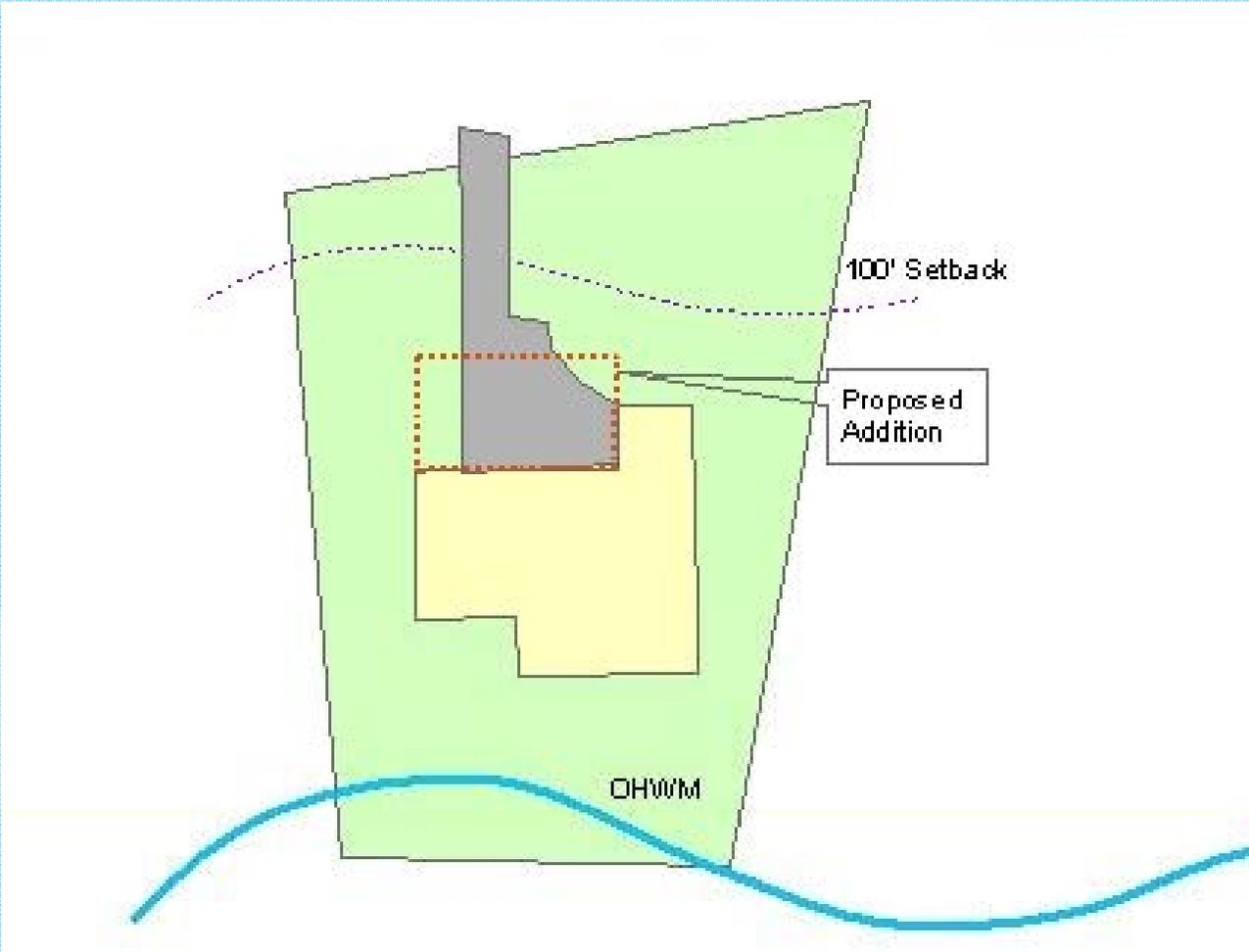




“Functionally and Effectively Disconnected”

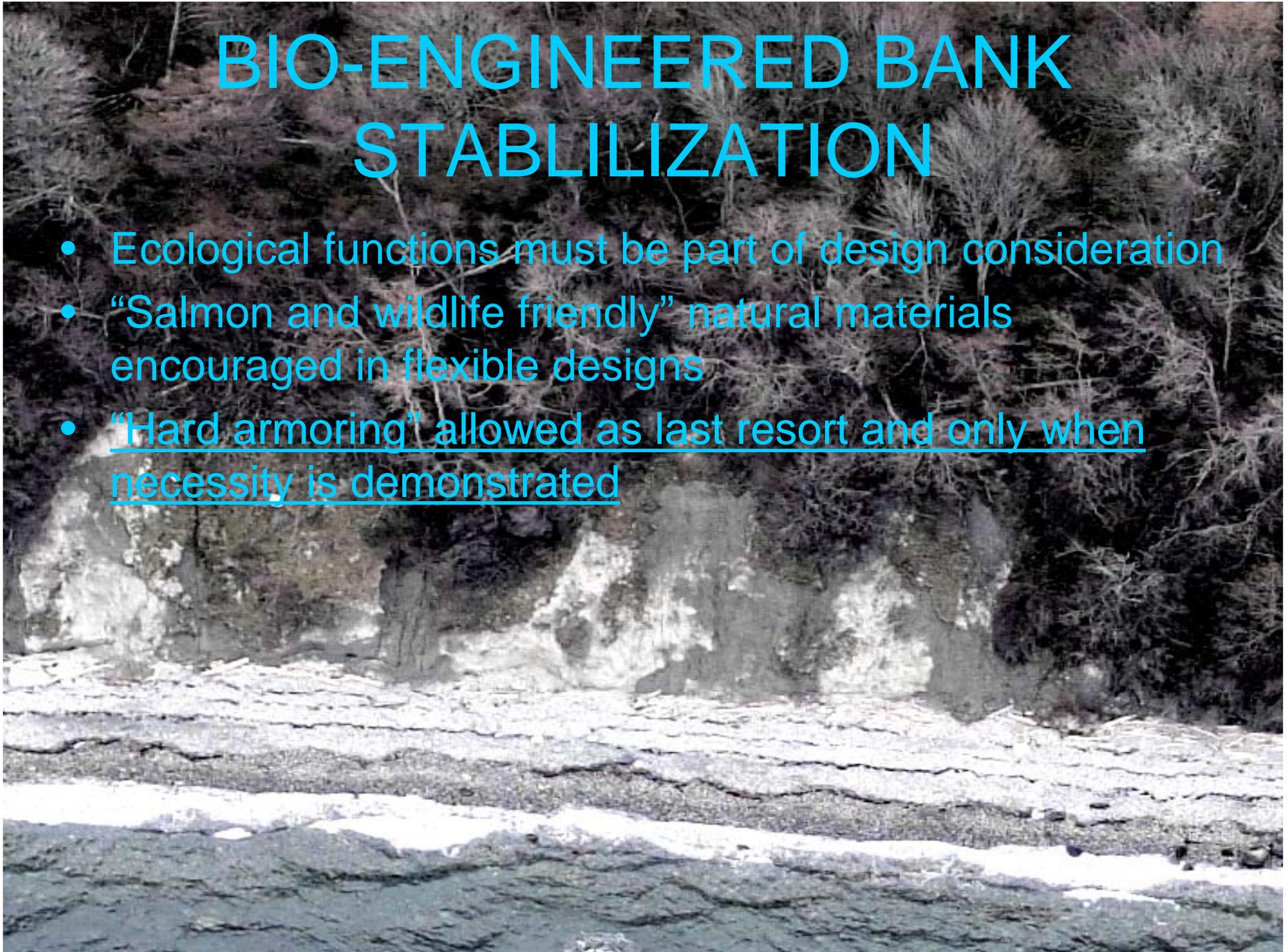


# Functional Disconnection – Non-conforming



# BIO-ENGINEERED BANK STABILIZATION

- Ecological functions must be part of design consideration
- “Salmon and wildlife friendly” natural materials encouraged in flexible designs
- “Hard armoring” allowed as last resort and only when necessity is demonstrated





- Traditional "Hard Armoring"
- Habitat impacts to beach
- Less people friendly
- Maintenance issues
- Aesthetic considerations



Rock Gabions  
subject to  
undercutting and  
failure

Beach habitat  
impacts

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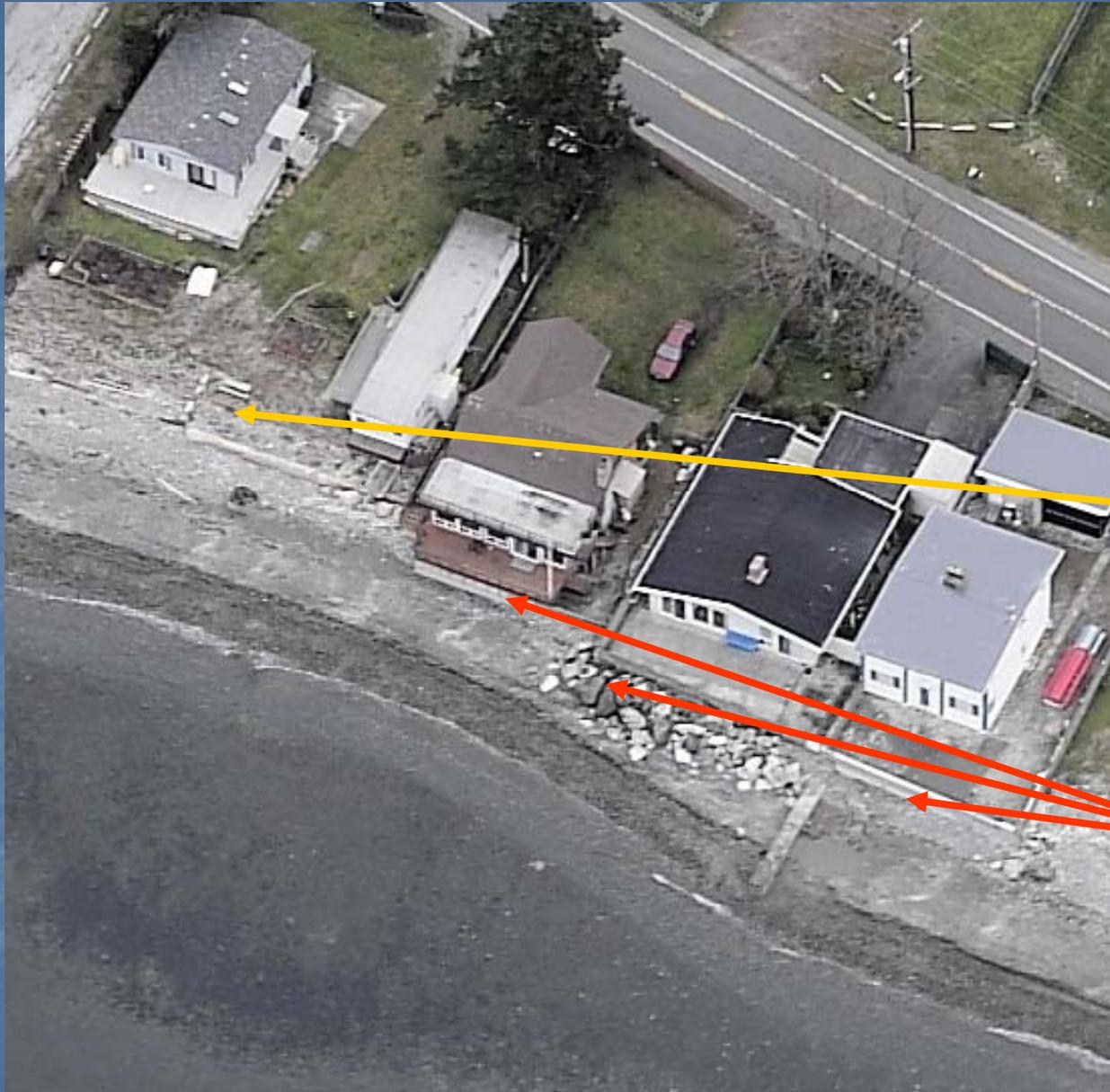


Side-by-Side  
Contrast of  
Hard vs Soft  
approaches

■ Managed  
vegetation  
buffer

■ Revetment

■ Bulkheads



## Side-by-Side Comparison of Hard vs Soft Approaches

- Anchored Beach Log with Gravel Beach Feeding

- Concrete and Riprap bulkheads



## Community Beach Design Elements:

- Groin allows spill over of beach sand and gravel
- Sand and Gravel top layer
- Cobble foundation of berm
- Sand added every 5 yrs



## Marine Park – Popular Public Access

- Finish line for  
Renown Sea-to-  
Ski Race
- Hard armoring  
not people friendly
- 400+ sea-  
kayakers finish  
here
- Approximately  
20,000 visitors  
participate

# Marine Park – north view (before)



# Marine Park – south view (before)



# Marine Park (soft restoration)

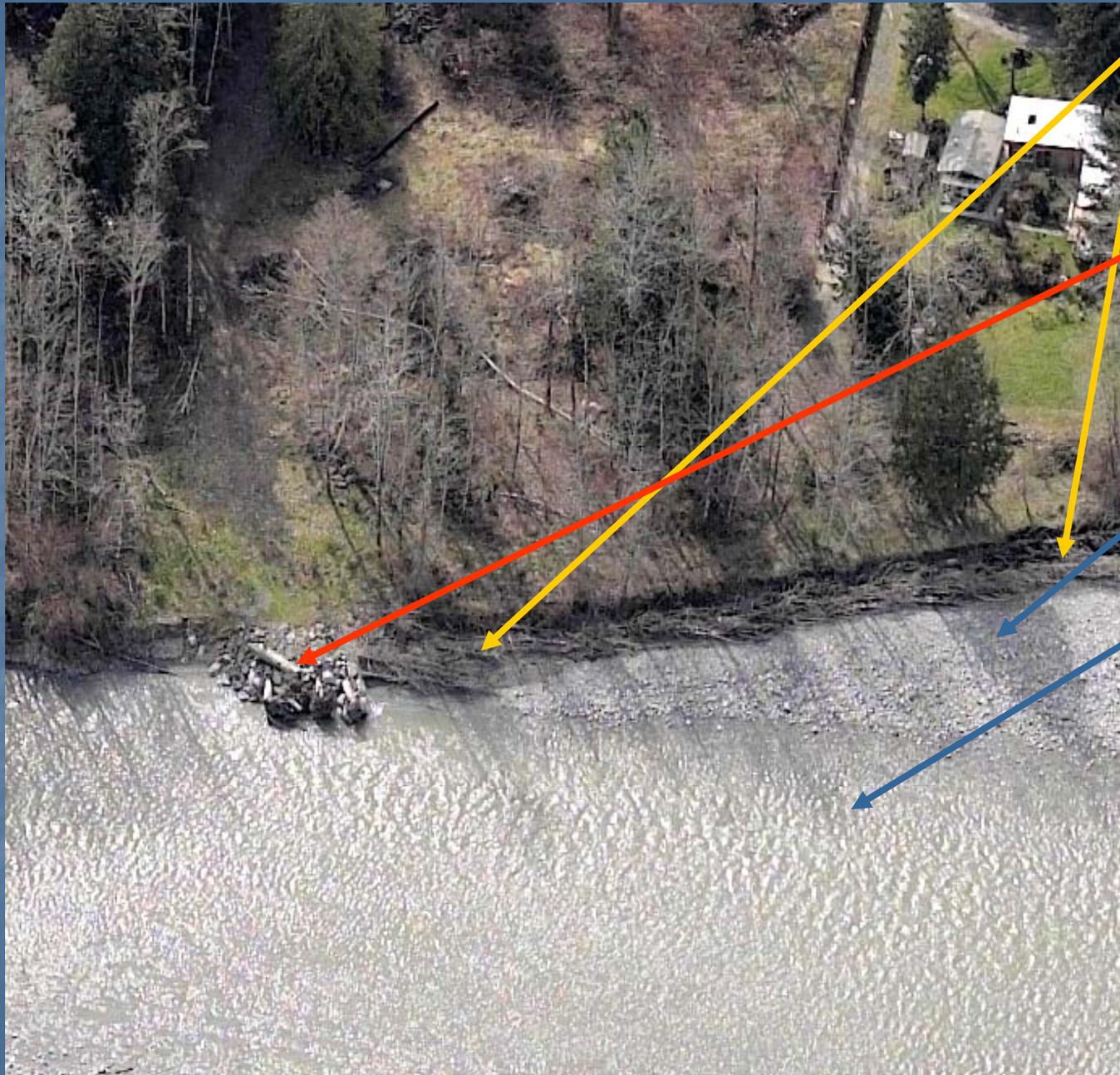


South Fork  
Nooksack River

- Bank erosion threatening homes and county road

- 1,200 lin. ft rapidly eroding





Fish-friendly  
Cedar tree  
"shingle"  
protection

Hard point  
stub groin

Has resulted  
in:

- gravel  
accretion  
bar

- Natural  
channel  
diversion

Habitat  
enhancement

Endangered  
Chinook  
salmon  
protection



## Nooksack River Main Stem

### *Erosion threatening*

- Mt. Baker (state) Highway
- County road
- Eagle Watch Park
- Potential avulsion to downstream properties



•Log crib “soft-hard” points

•Buried Rock trench under public path



- Log crib soft-hard points
- Buried Rock trench under public path
- Park plantings
- Riparian plantings



- Log crib soft-hard points
- Buried Rock trench under public path
- Park plantings
- Riparian plantings
- Natural gravel accretion formed by "soft" points slowing current
- Diversion of main channel erosive forces
- Salmon habitat protected and created with LWD and riparian plantings

An aerial photograph of a residential waterfront area. The water is dark blue, and the shoreline is lined with numerous houses and docks. The docks are mostly wooden and extend into the water. The houses are mostly single-story with various roof colors. The overall scene is a typical suburban waterfront community.

# DOCK CONSTRUCTION

- Only non-toxic materials permitted
- Nearshore shading impacts minimized
- Pier width limited to 4 ft
- Light penetration devices and design required for large docks in nearshore
- Size limited to minimum providing adequate moorage for proposed use



- Large overwater structures affect nearshore habitat

- Now limited to minimum necessary to provide adequate moorage

- Overwater decks are prohibited



- Unnecessary nearshore shading impact
- Overwater deck is not water-dependent use
- Excessive size and scale for dock
- *Encroachment* of public water surface



- Dock is designed for water-dependent recreational use



- Dock is designed for water-dependent recreational use
- Pier 4 ft wide
- Length reaches to edge of shallows



- Dock is designed for water-dependent recreational use
- Pier 4 ft wide
- Length reaches to edge of shallows
- Adequate moorage provided



- Dock is designed for water-dependent recreational use
- Pier 4 ft wide
- Length reaches to edge of shallows
- Adequate moorage provided
- Minimal impact to shoreline resources

DETAILS, DETAILS, DETAILS

