Clallam County Shoreline Master Program Update

No Net Loss Work Group Meeting #2

August 18, 2011

CLALLAM COUNTY 1854

ESA

Meeting Agenda

- Review what we have heard and our work to date
- Remind you of the NNL framework
- Freshwater and marine reach examples
- Discuss reach characterizations, potential land use change, risk of net loss and indicators
- Wrap up and next steps

Meeting Purpose

Get your feedback on:

- Overall strategy for characterizing conditions and assessing risk to ecological functions
- Our description of current conditions and need for revision(s)
- The meaning of no net loss based on specific examples
- Usefulness of indicators to track results and guide SMP update and implementation

What we heard from you:

- Ensure indicators fit within broader qualitative assessment of ecological conditions
- Concern about trying to define and quantify NNL
- Need for clarity in defining indicators
- Support for indicators related to vegetative cover, floodplain function and sediment transport functions
- Questions about scale, historic conditions, effects of existing “stressors”, etc…

What we heard in public forums:

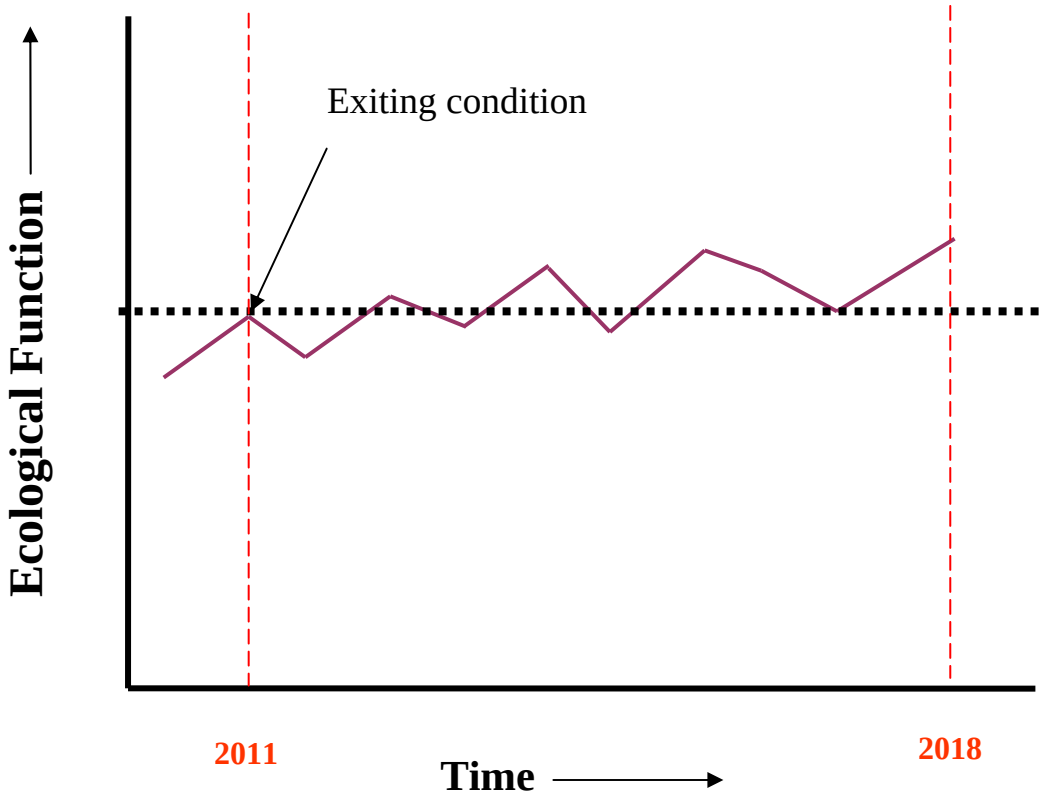
- Conditions are better than in the past
- Water quality has improved in some places, declined in others
- Habitat restoration sign of better conditions
- Habitat projects and road work creates downstream problems
- Concerned about growth, protection of resources and property rights

Progress Since December

- Developed a Vision Statement
- Assessed consistency of existing SMP to state guidelines and on-the-ground realities
- Compiled and analyzed data and information to describe existing shoreline conditions
  - Comprehensive and qualitative inventory and characterization
  - Quantitative “measurements” of functions using preliminary list of indicators
  - Draft Inventory and Characterization Report (ICR)

No Net Loss (NNL)

As shoreline development occurs, ecological functions stay the same (or are improved) over time



Major Assumptions

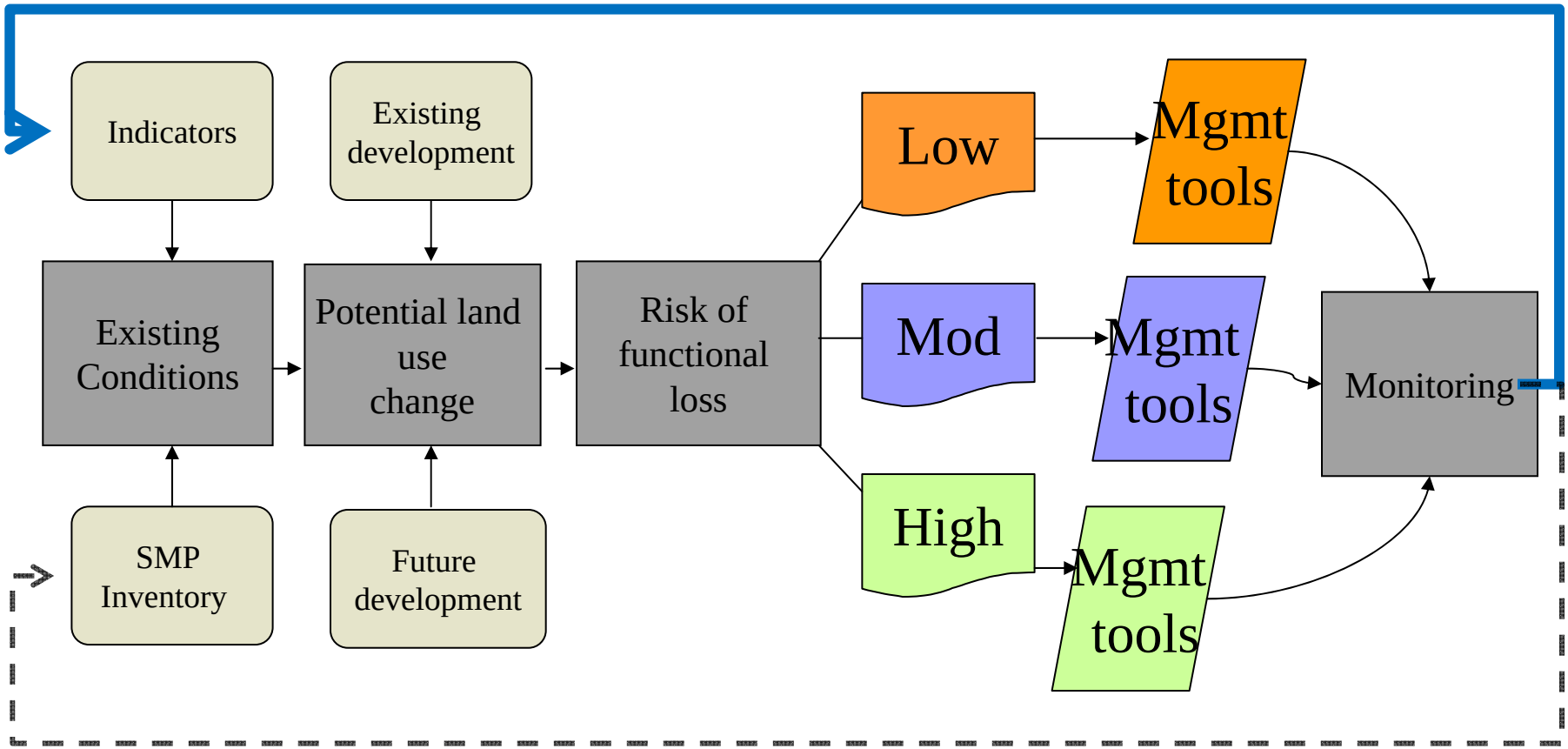
- Future development will occur
- Development can be managed *to reduce risk of losing functions*
- Increased accountability will improve outcomes

NNL Work Group Role

- Review Performance Indicators
  - Scientifically sound?
  - Relevant, feasible and useful?
  - Broadly applicable to other jurisdictions?
  - Can they improve accountability?
  - Will they inform shoreline management?

NNL Assessment Steps

1. Document existing ecological conditions
   a. Full inventory
   b. Suggested NNL indicators
2. Evaluate potential land use changes
   a. Potential for new development
   b. Type of development
3. Assess *risk* of functional loss
4. Tailor SMP based on risk
5. Track and monitor changes over time


Indicators
Existing development
Existing Conditions
Potential land use change
Risk of functional loss
Low
Mod
High
Mgmt tools
Mgmt tools
Mgmt tools
Monitoring
SMP Inventory
Future development

Comprehensive Inventory

- Priority habitats and species
- Vegetation
- Water quality
- Instream/ in-water conditions
- Shoretype
- Drift cells
- Stream channel morphology
- Floodplains
- Shellfish habitat
- Wetlands, critical areas
- Erosion /landslide hazards
- Channel migration zones
- Impervious surface
- Dikes/levees
- Bulkheads
- Contaminated sites
- Fish passage blockages
- Zoning and land use
- Docks/piers/marinas
- Public access
- Public ownership / Protected lands
- Tidelands
- Land Use

Functions and Indicators - Marine

Functions	Quality Indicators	Alteration Indicators
Sediment supply	Feeder bluff	Modified shoreline
Sediment transport	Landslide/erosion hazard	Feeder bluff with armoring
Water quality	Closed canopy riparian forest	Armoring (non feeder bluff)
Tidal hydrology		OW structures
Freshwater input		OW structures in sediment transport zones
LWD/organic inputs		
Fish/Wildlife habitat		
Species movement		

Functions and Indicators - Freshwater

Functions	Quality Indicators	Alteration Indicators
Fish/Wildlife habitat	Salmon stock status	Impervious surface
Hydrology	Closed canopy riparian forest	Presence of levee/revetment
Water quality		
Floodplain connectivity		
LWD/organic inputs		
Species movement		

Selecting Potential Indicators

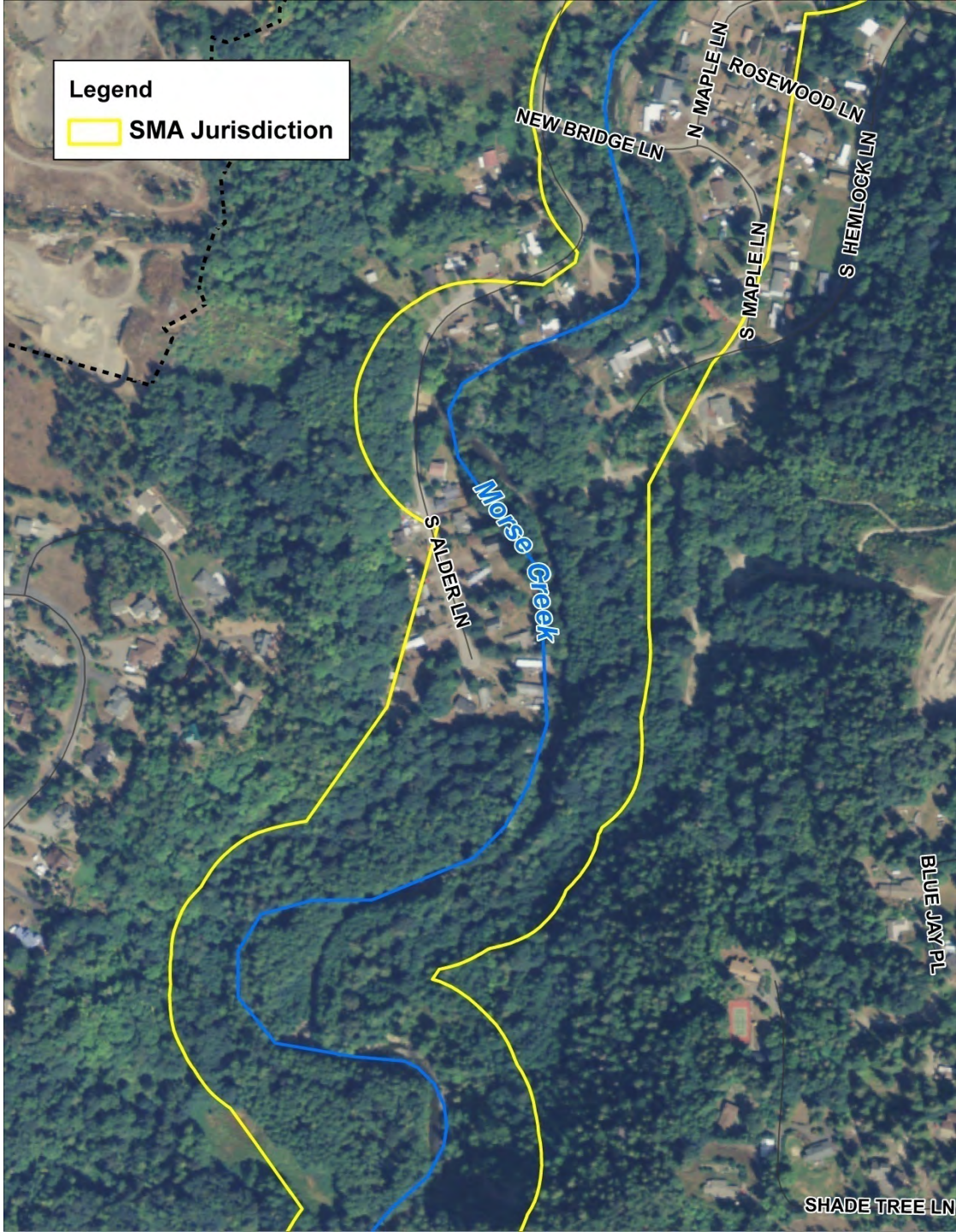
- Correlation between indicator and function
- Correlation between indicator and SMP decisions
- Data reasonably available
- Likely future access to data
- Longer term environmental trends
- Measured with reasonable accuracy at reach scale
- Reflects local conditions of importance
- Build from Ecology & PSP indicators

Reach Examples

Morse Creek

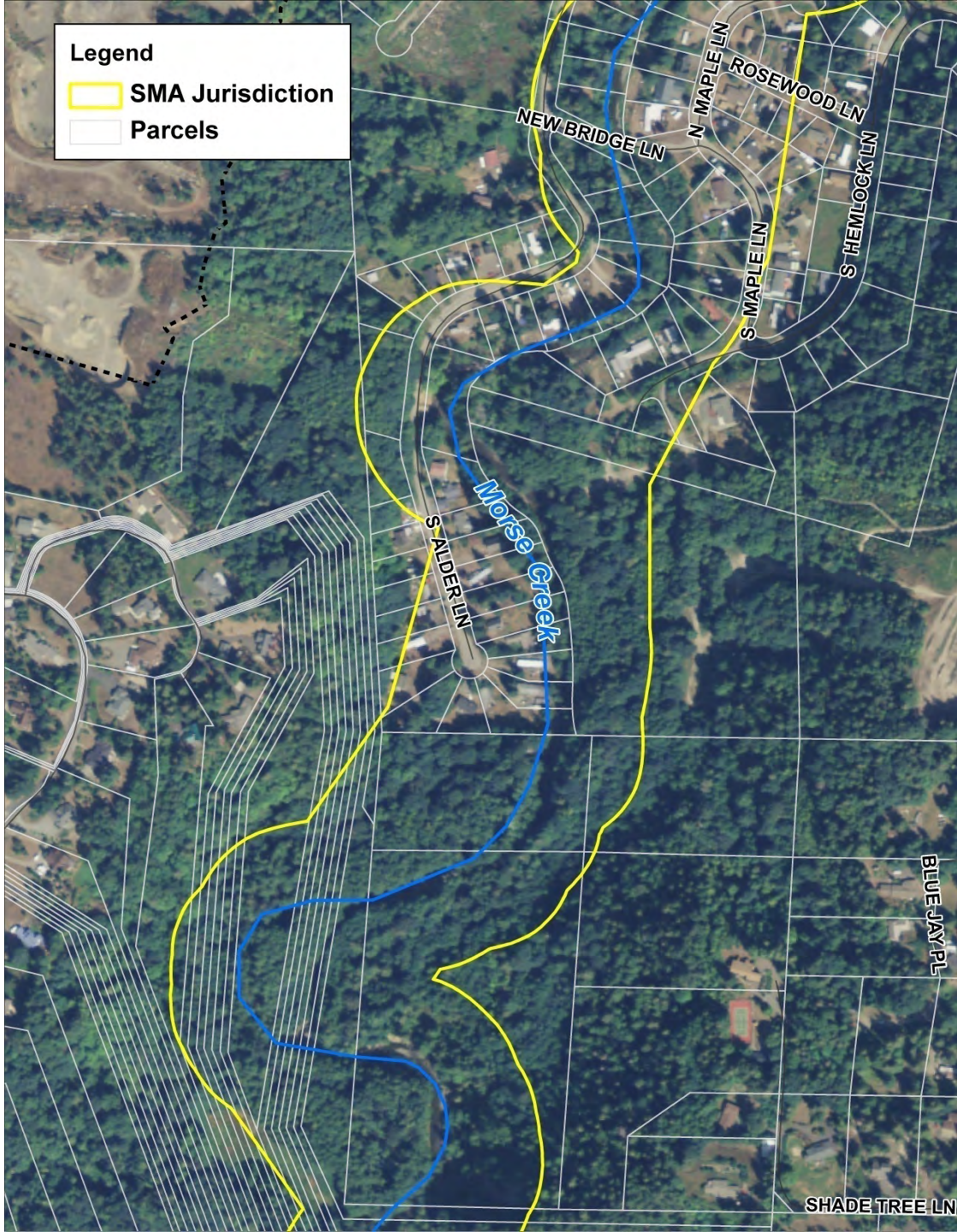
(subset of Reach 01)

- Upper reaches in ravine, lower reaches are wide floodplain
- Salmon spawning (5 spp.)
- Bull trout habitat
- Extensive wetlands
- Priority habitat for wood ducks and harlequins
- Some high quality, intact riparian forest

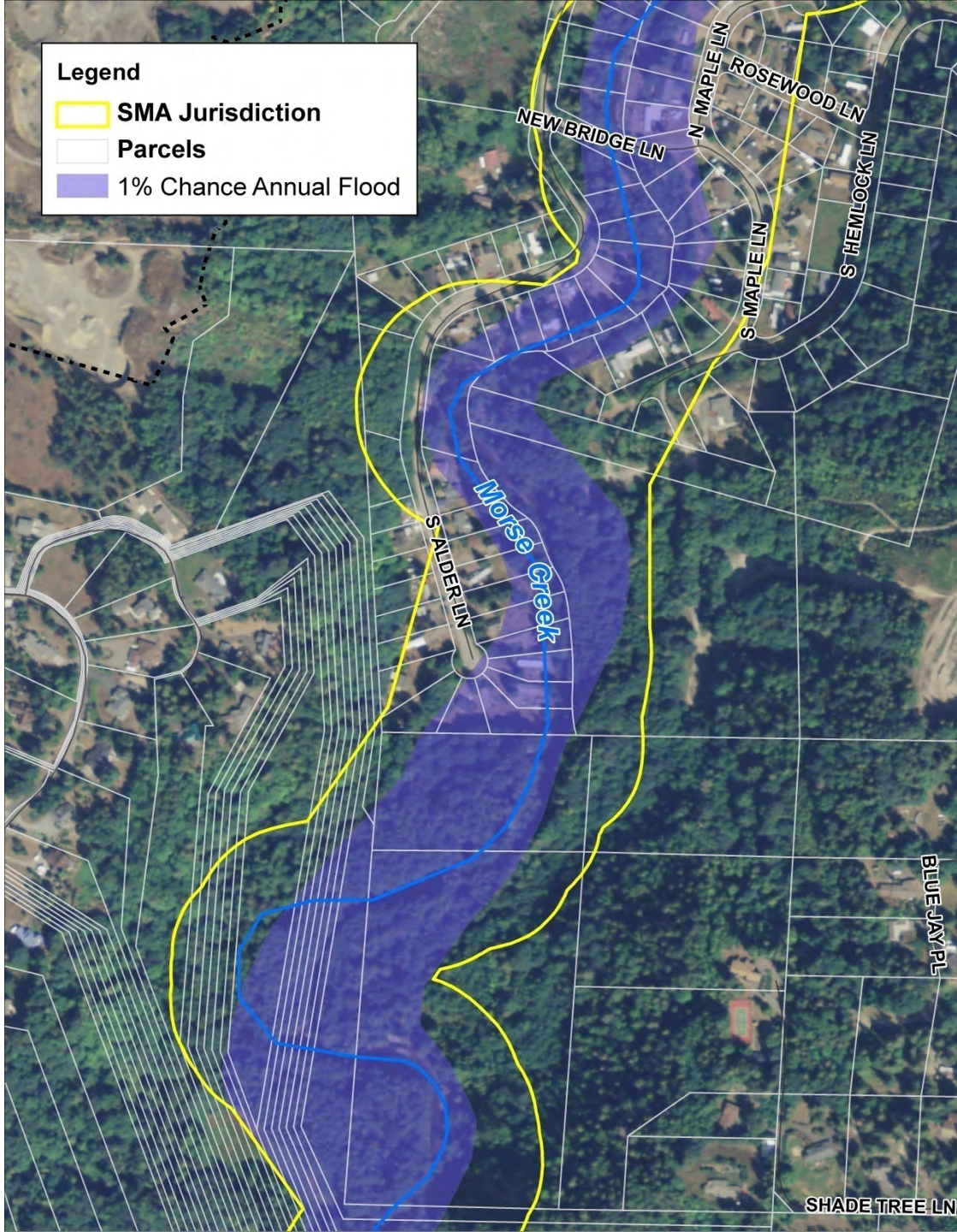


Morse Creek

- Mixture of platted and un-platted lots
- Rural residential zoning (R1)

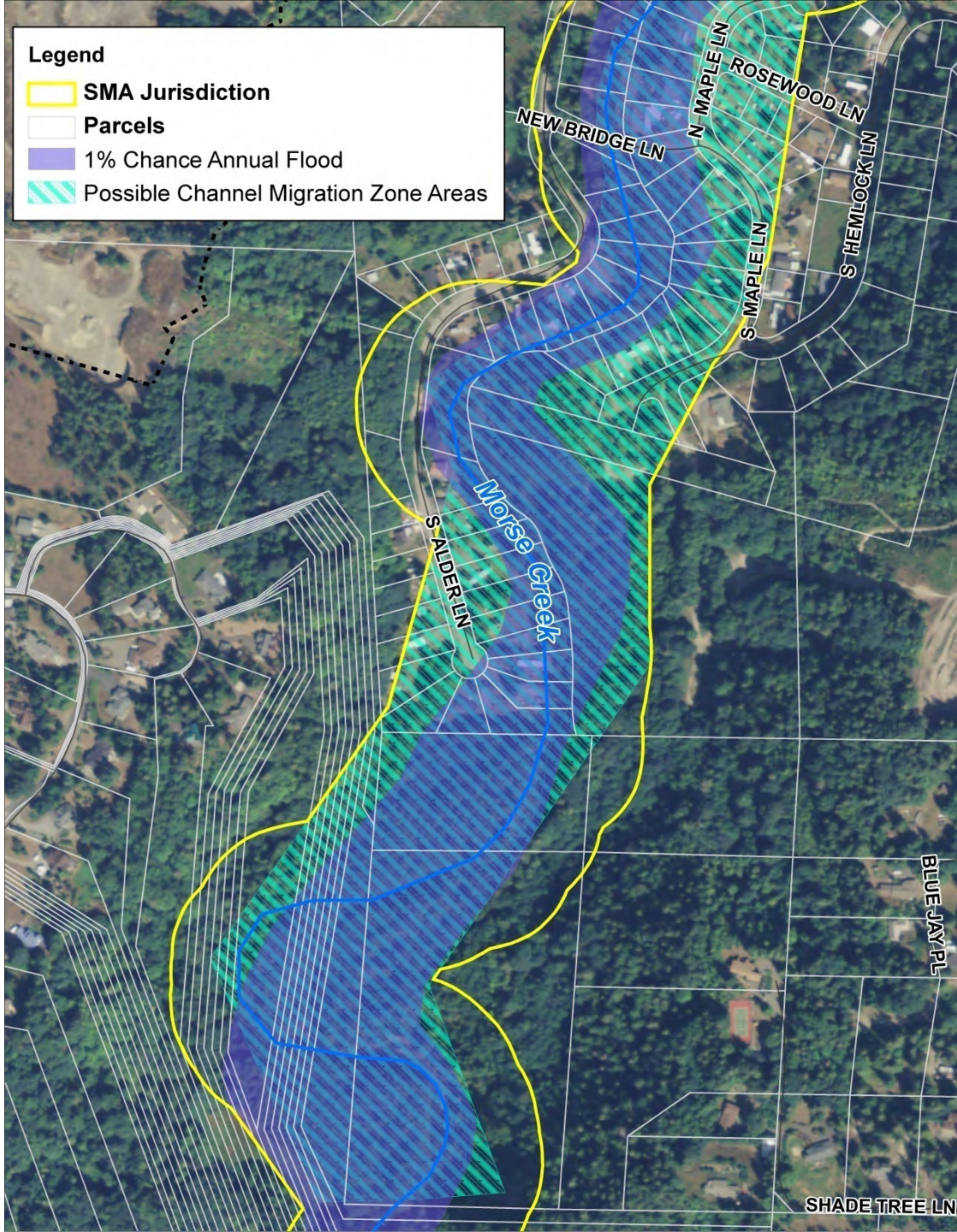


Morse Creek


Legend
SMA Jurisdiction
Parcels
1% Chance Annual Flood
NEW BRIDGE LN
N MAPLE LN
ROSEWOOD LN
S HEMLOCK LN
S MAPLE LN
S ALDER LN
Morse Creek
BLUE JAY PL
SHADE TREE LN

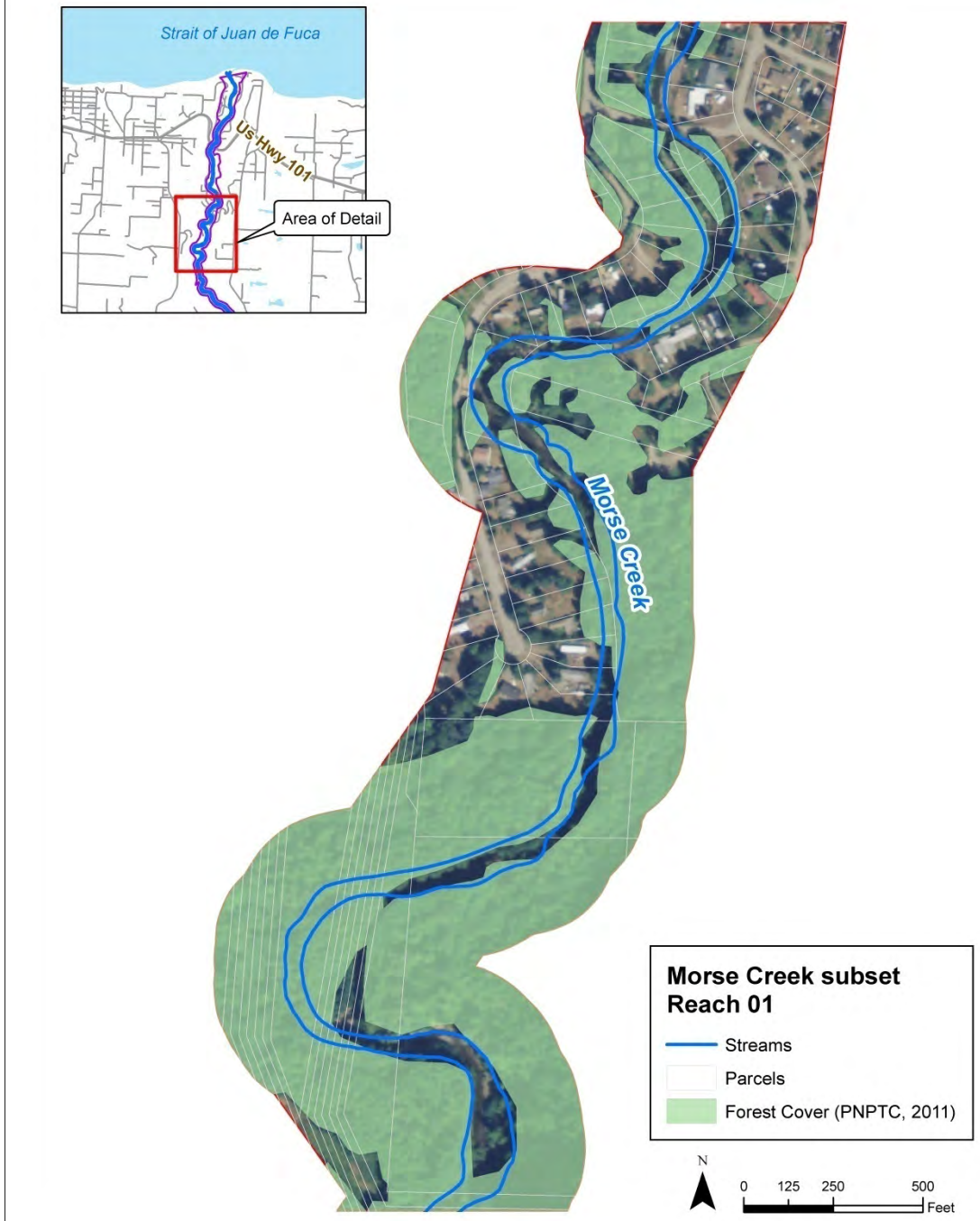
Morse Creek

- No bank armoring or shoreline modifications
- No man-made passage barriers
- Natural falls at RM 4.9 and hydro diversion at RM 7.2



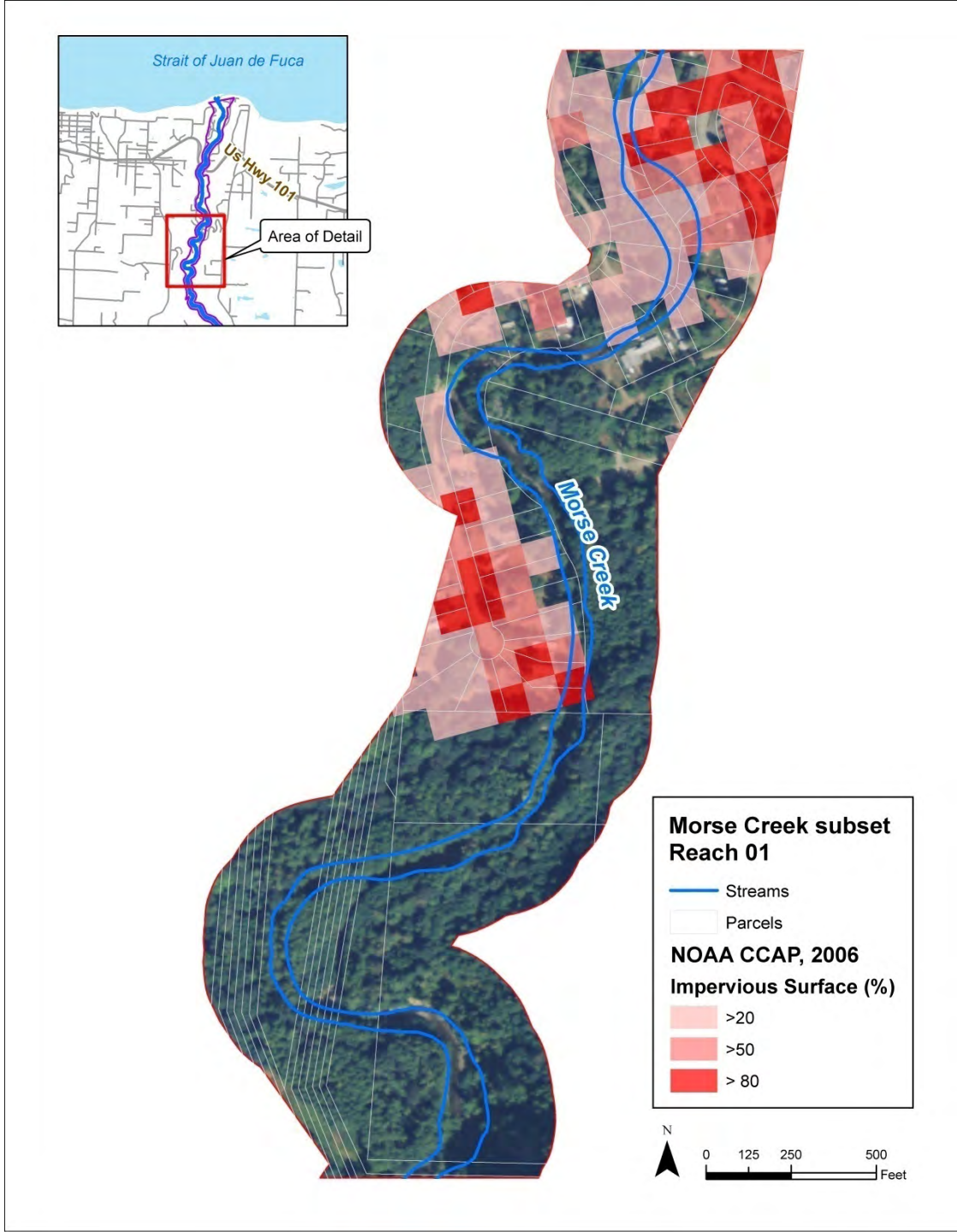
Morse Creek

- **Forest cover = 61%**
- Remaining cover mostly on un-platted lots



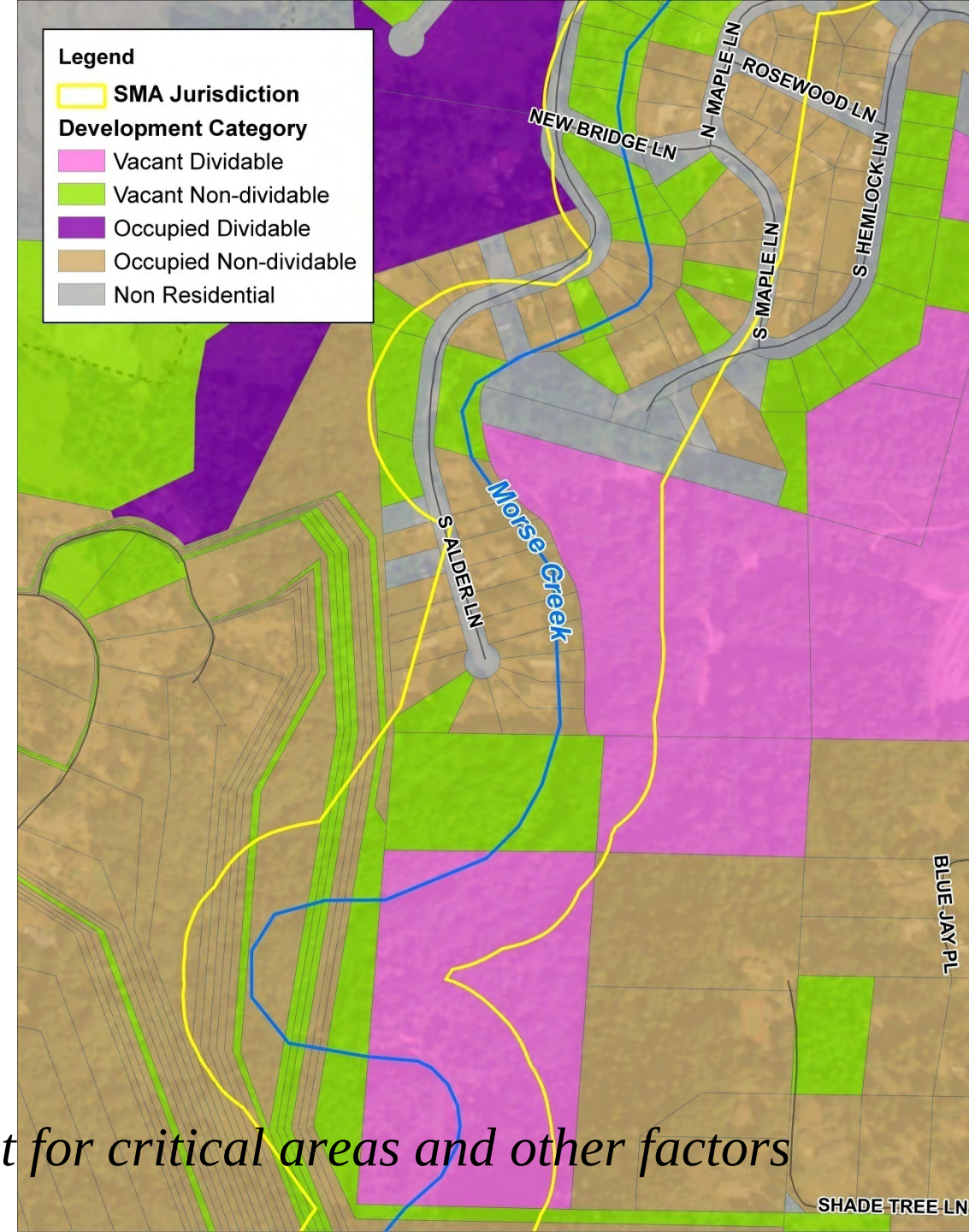
Morse Creek

Impervious Surface = 29%



Morse Creek

Green and purple parcels have greatest potential* for future development



**Does not fully account for critical areas and other factors*

Morse Creek

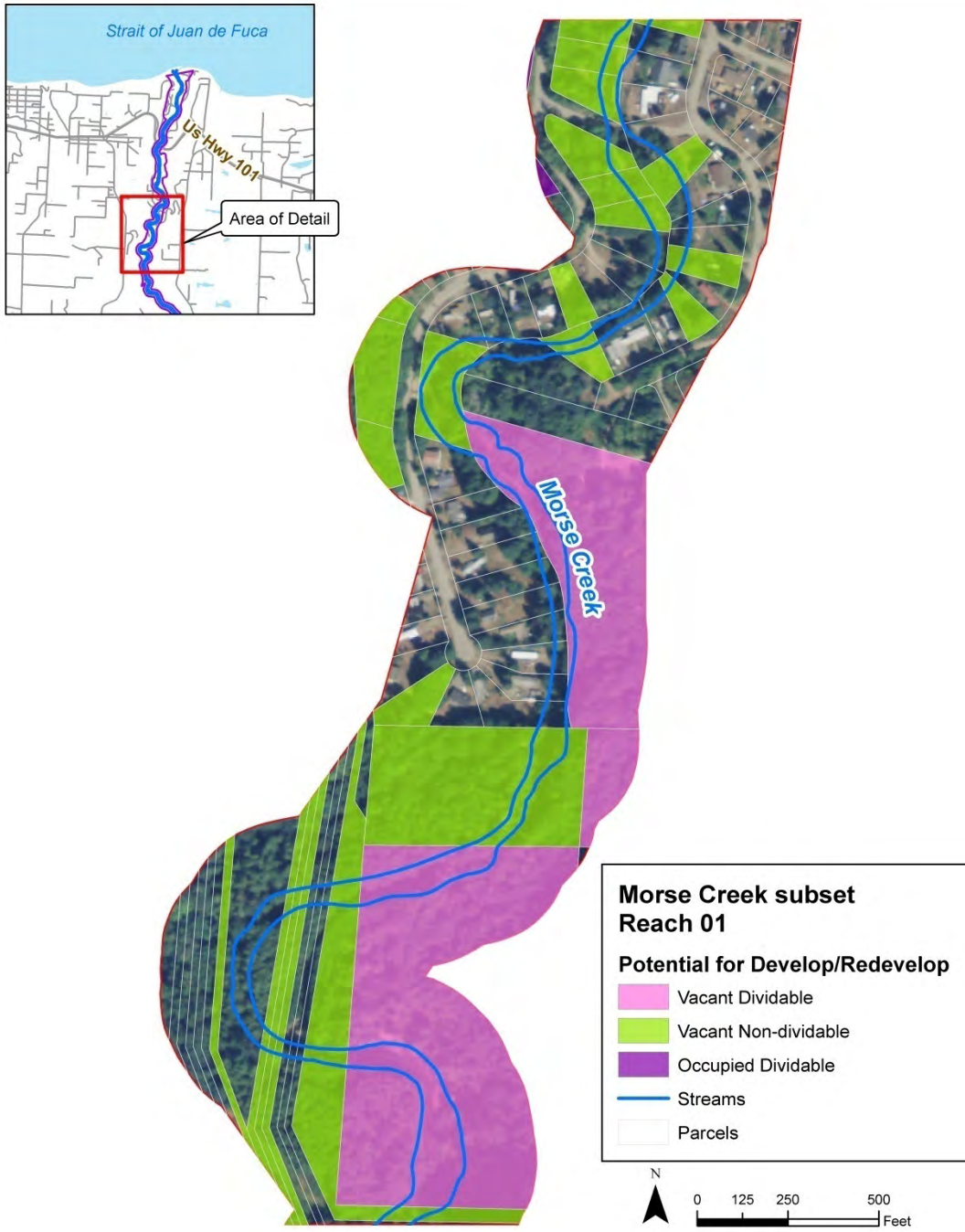
Post Development:

Impervious: 3**% increase**

Forest cover: 3**% decrease**

Functional loss:

LWD recruitment, salmon productivity, floodplain connectivity, flood storage, wildlife habitat, water quality (temp)



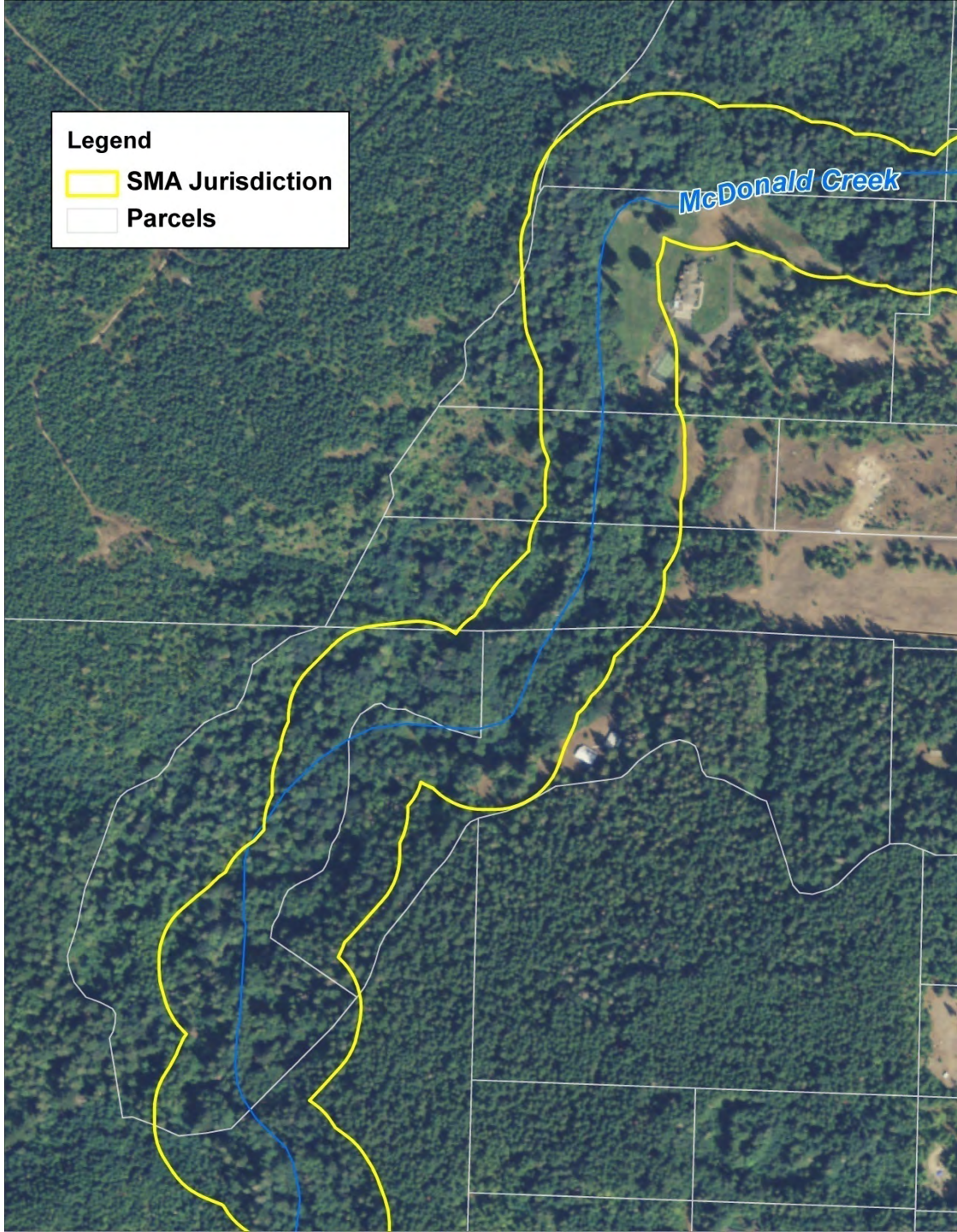
Questions

- What's the risk of losing functions?
- Are the characterizations of current conditions, potential development and risk helpful?
- Are there revisions or additions that would improve the desired outcomes?

McDonald Creek

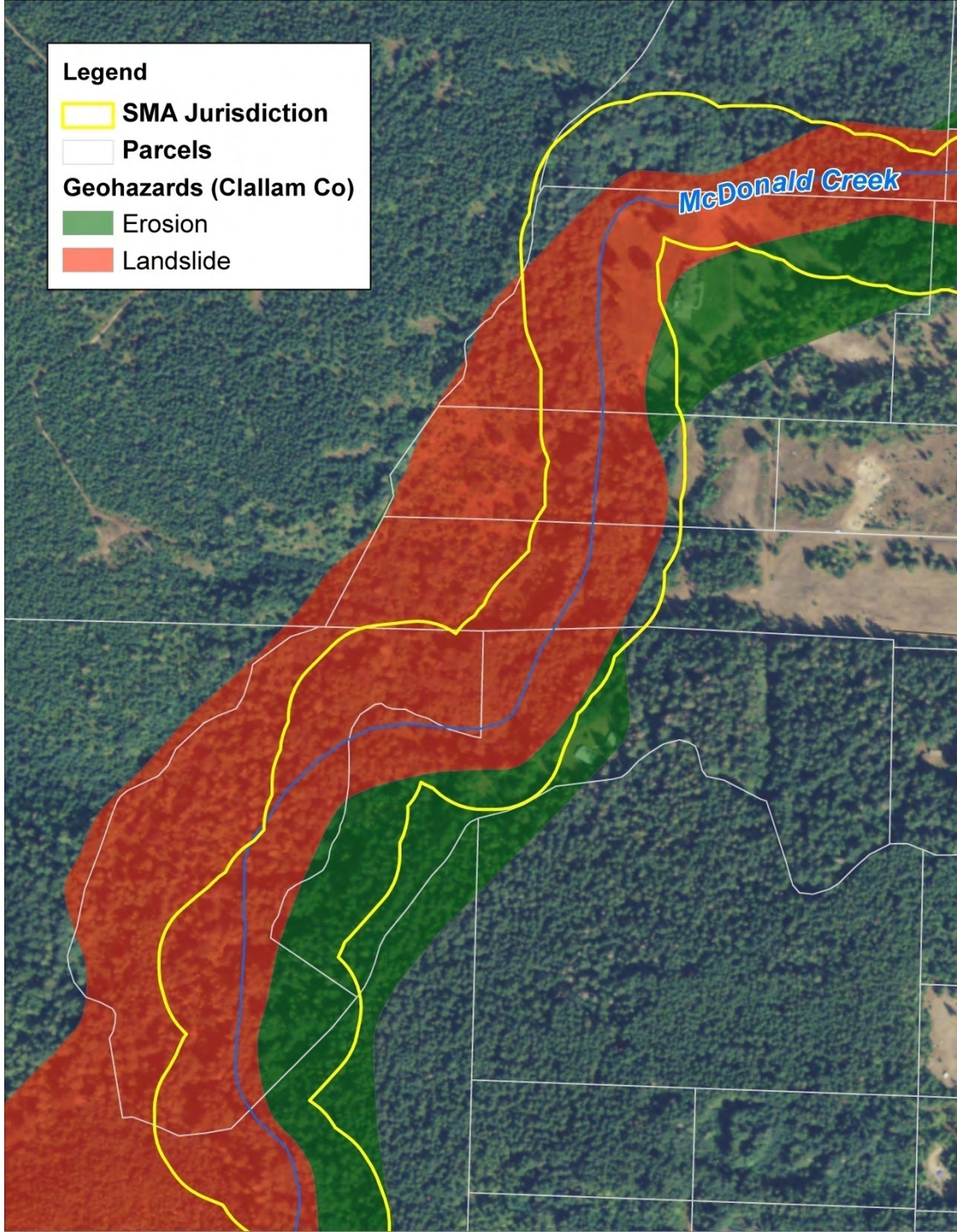
(subset of Reach 01)

- Confined channel
- Small estuary at mouth
- Coho and steelhead spawning
- Extensive riparian wetlands
- Priority habitat for bald eagles, peregrines, wood ducks
- Well developed riparian forest



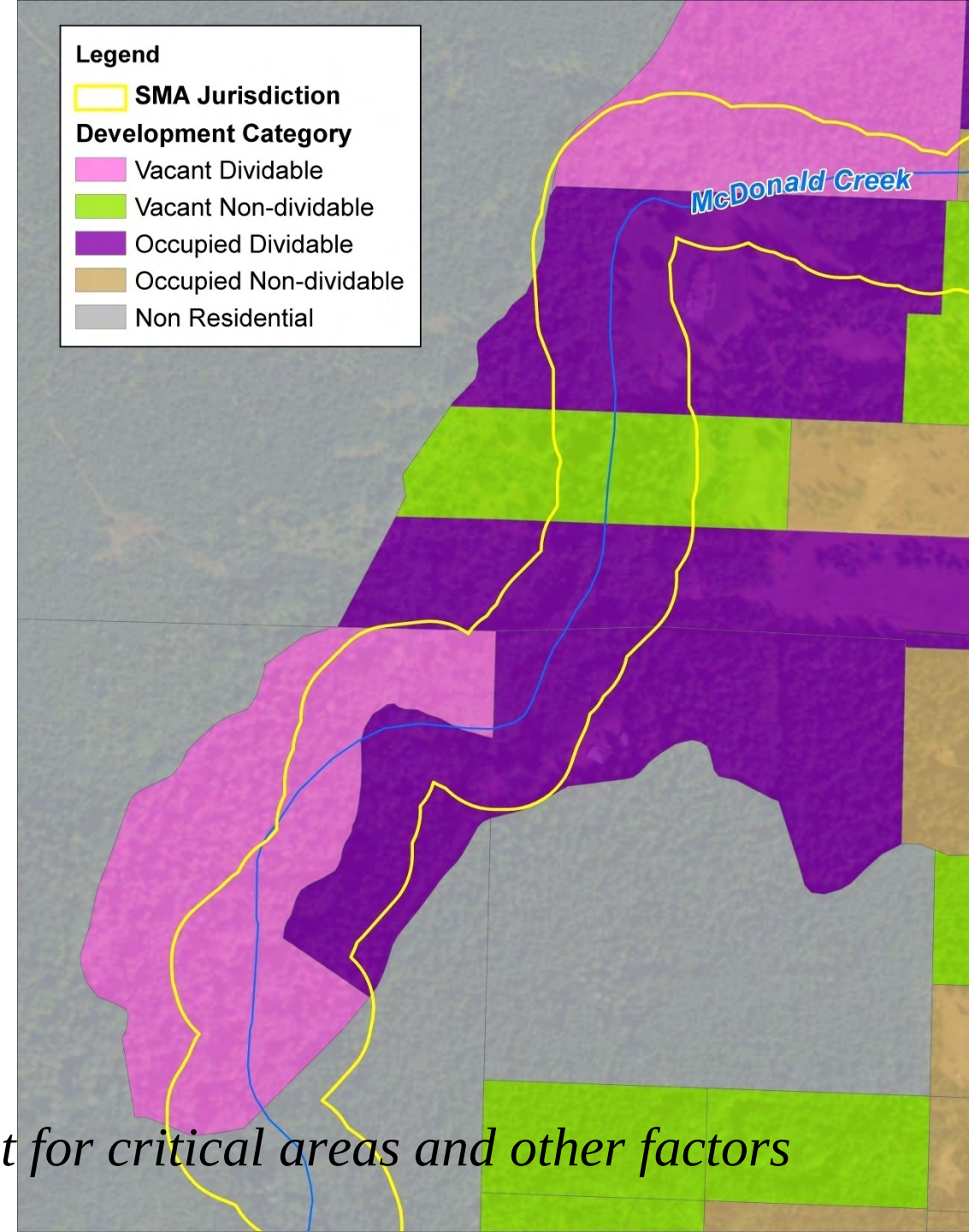
McDonald Creek

- High erosion and landslide hazard
- No mapped floodplain or CMZ
- Irrigation conveyance, bypass and withdrawal
- Low density residential zoning



McDonald Creek

Green, pink and purple parcels have greatest potential* for future development

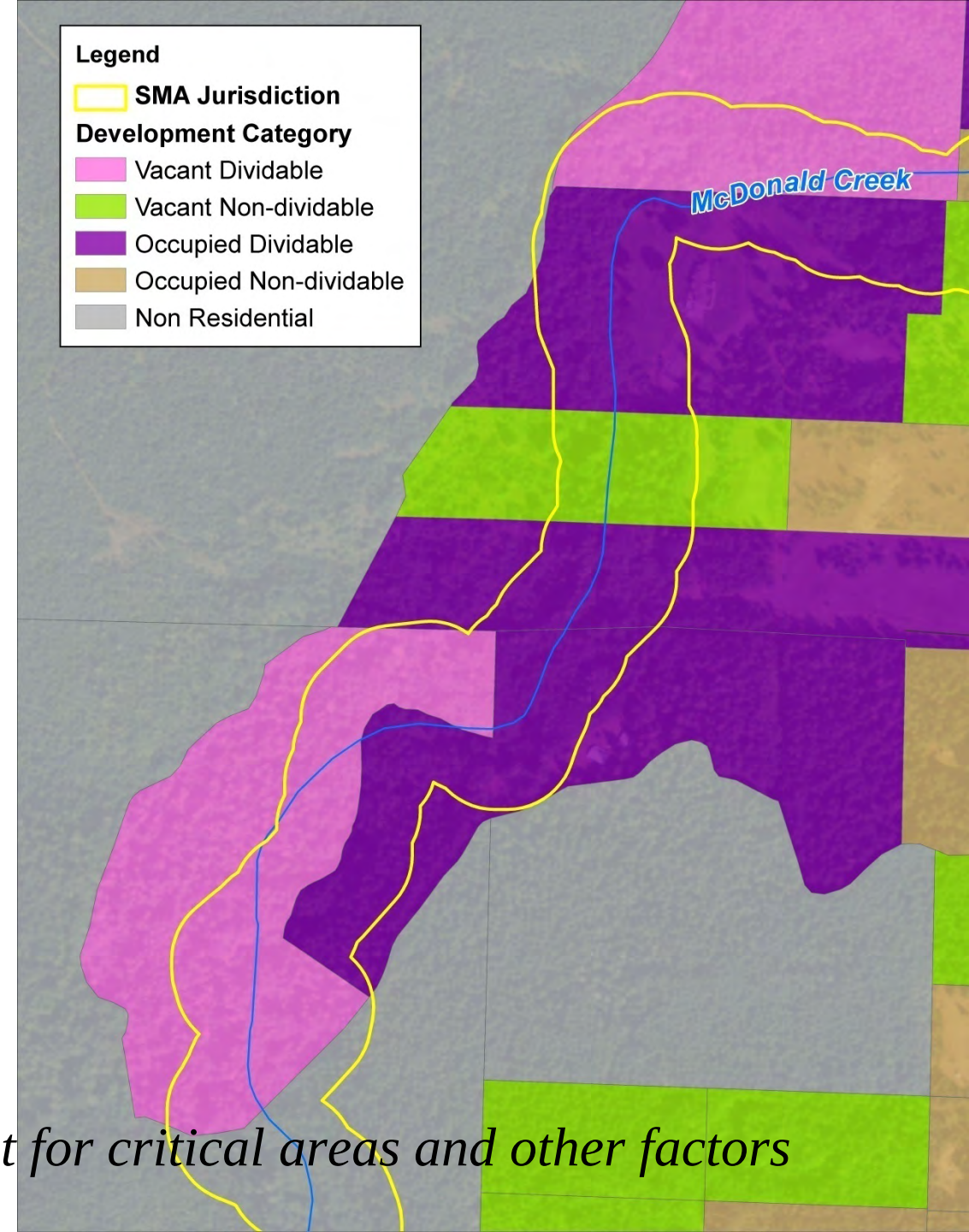


**Does not fully account for critical areas and other factors*

McDonald Creek

Functional loss:

- LWD recruitment
- Salmon production
- floodplain connectivity
- flood storage
- Wildlife habitat
- water quality (temp)



**Does not fully account for critical areas and other factors*

Questions

- What's the risk of losing functions?
- Are the characterizations of current conditions, potential development and risk helpful?
- Are there revisions or additions that would improve the desired outcomes?

Green Point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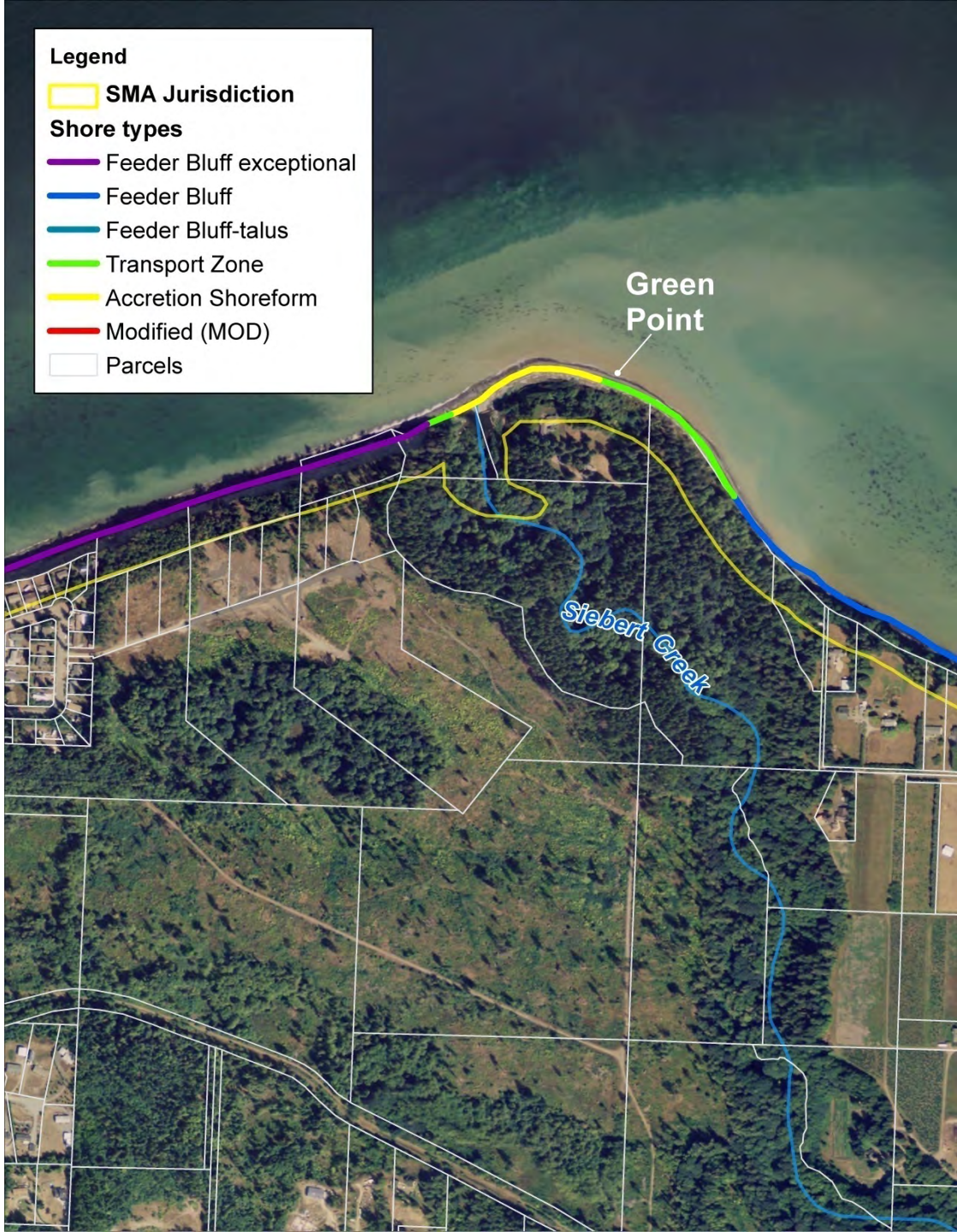
Legend
Parcels
SMA Jurisdiction
Green Point
Siebert Creek

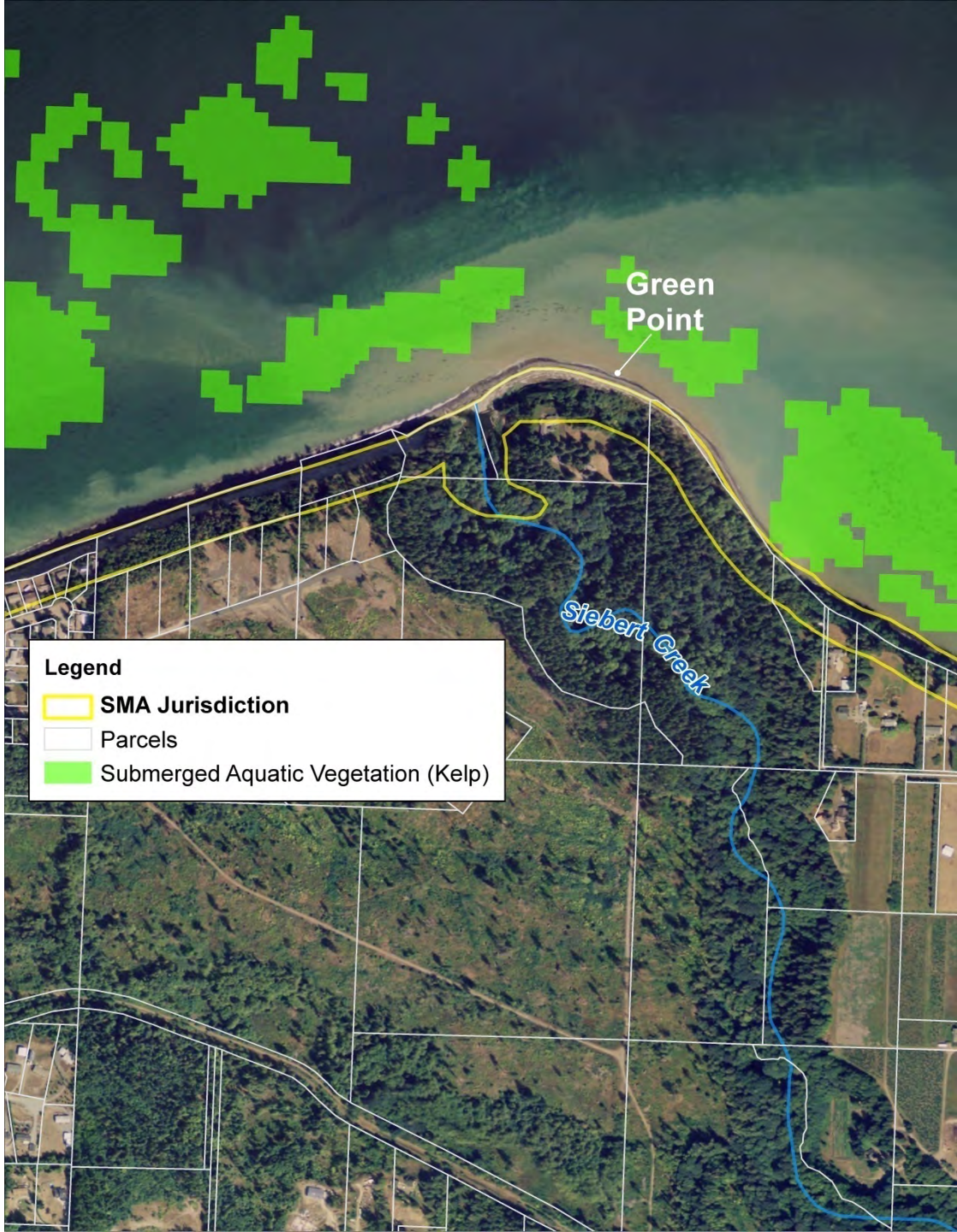
Green Point

- Feeder bluffs feed Dungeness Spit
- Gray whale feeding area near mouth of Siebert Cr.
- Surf smelt spawning on beach



Green Point

Patchy kelp and eelgrass provide forage for salmon an other species



Green Point

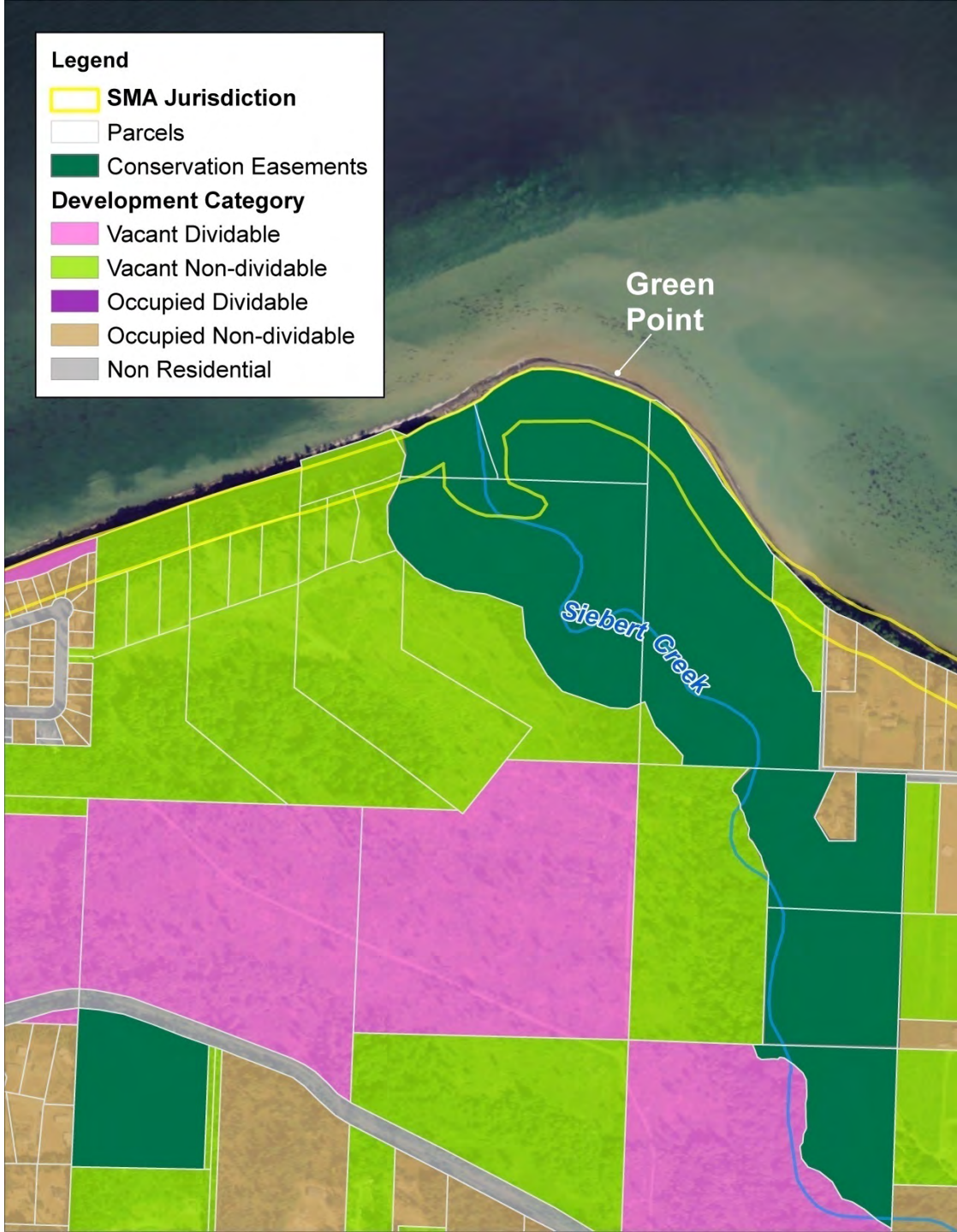
- Riparian forest cover is patchy
- Minimal armoring

Green Point

(Conservation easements provided by North Olympic Land Trust, 2011)

Potential development on light green & pink parcel could cause loss of:

- Sediment supply
- Forage fish spawning
- Salmon forage/ migration
- Reduce water quality in estuary

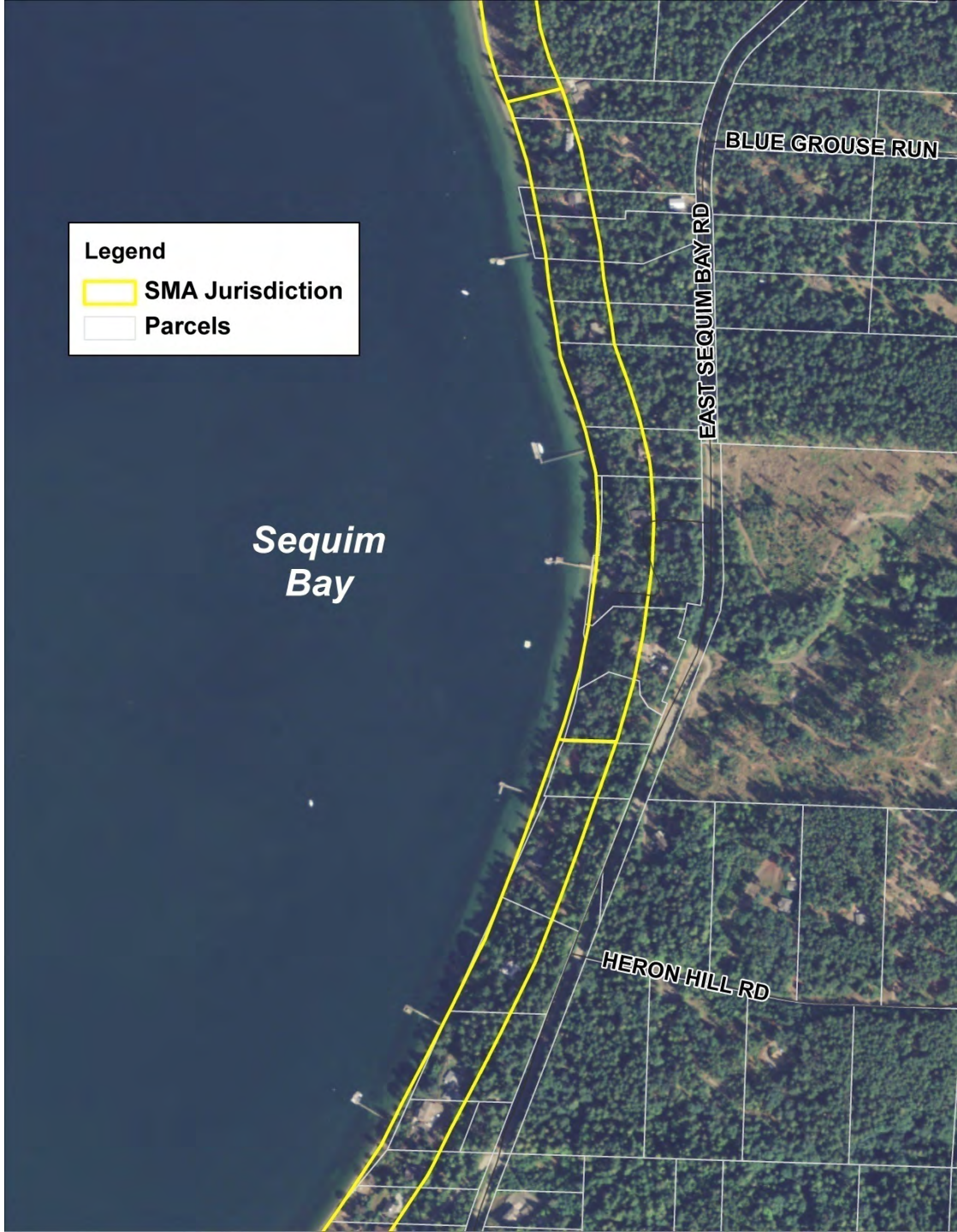


Questions

- What's the risk of losing functions?
- Are the characterizations of current conditions, potential development and risk helpful?
- Are there revisions or additions that would improve the desired outcomes?

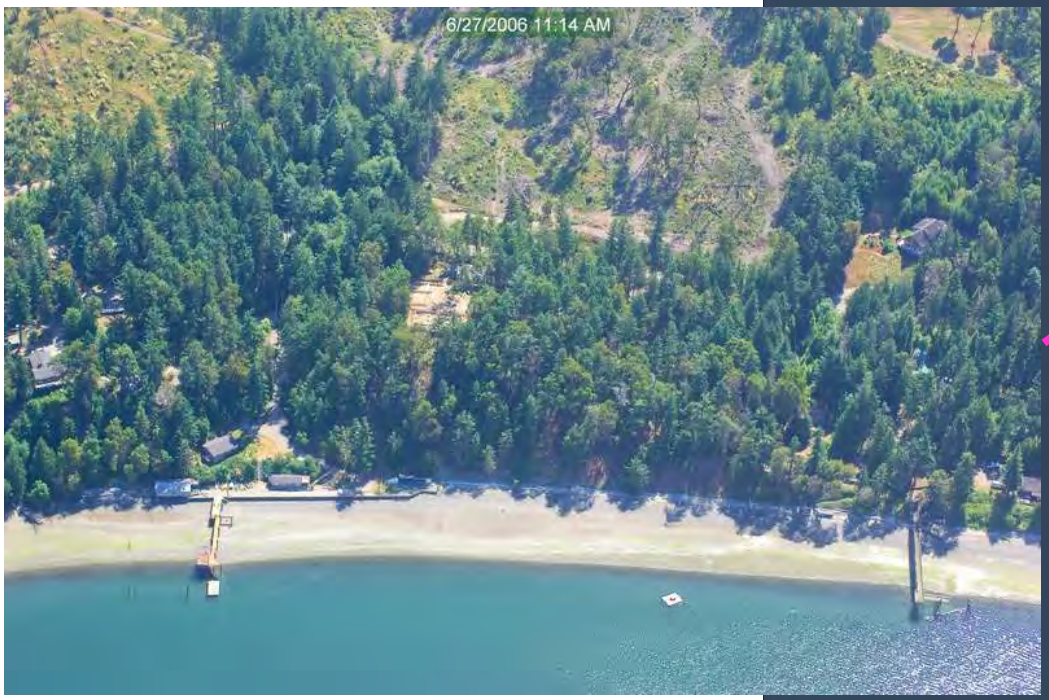
Sequim Bay

- Extensive eelgrass habitat
- Concentration area for waterfowl
- Oysters, geoduck, other shellfish
- Salmonid rearing habitat



Sequim Bay

Feeder bluffs
feed Gibson Spit



Legend

Shore types

- Feeder Bluff exceptional
- Feeder Bluff
- Feeder Bluff-talus
- Transport Zone
- Accretion Shoreform
- Modified (MOD)
- SMA Jurisdiction
- Parcels

Sequim Bay

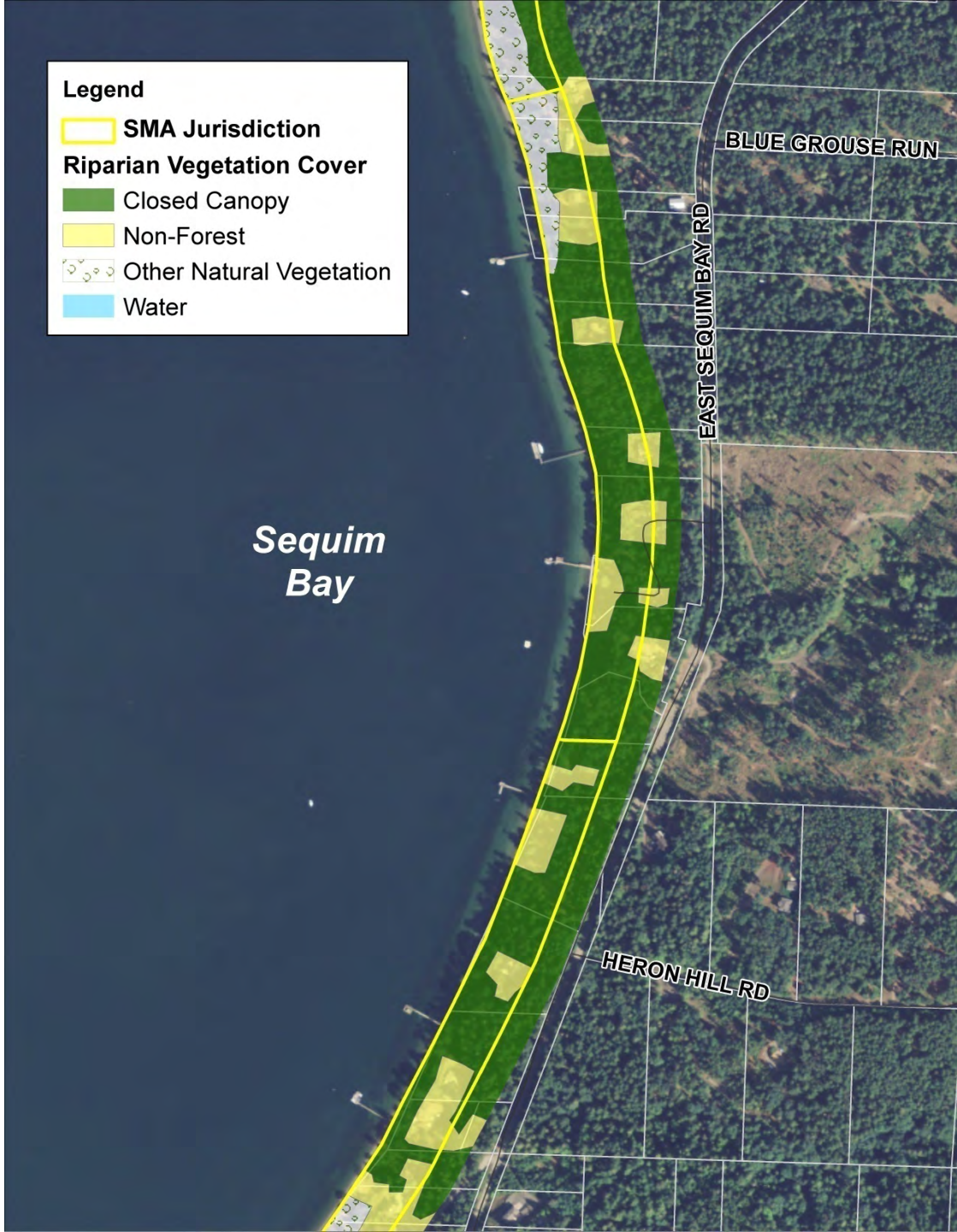
BLUE GROUSE RUN

EAST SEQUIM BAY RD

HERON HILL RD

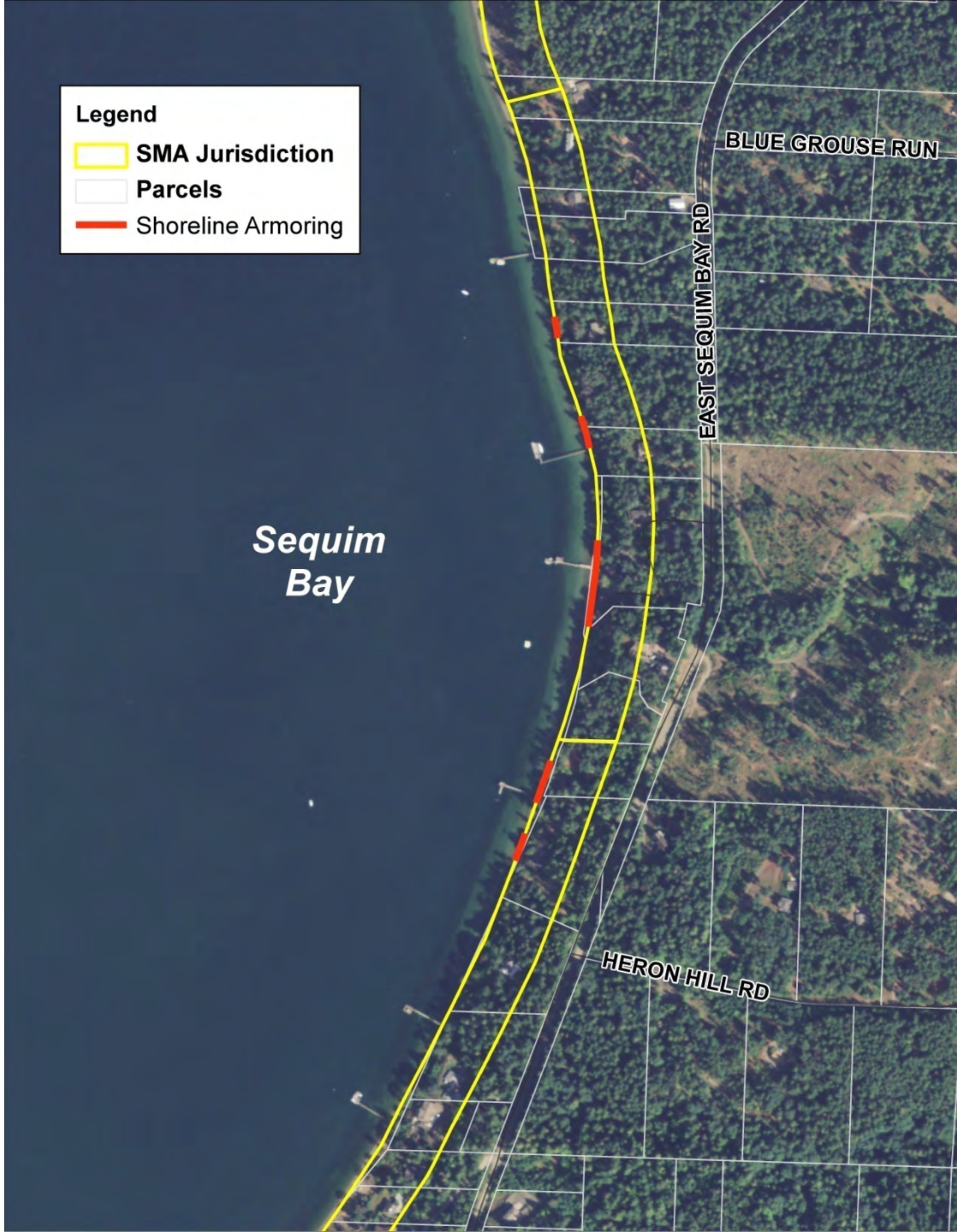
Sequim Bay

Forest cover is patchy



Sequim Bay

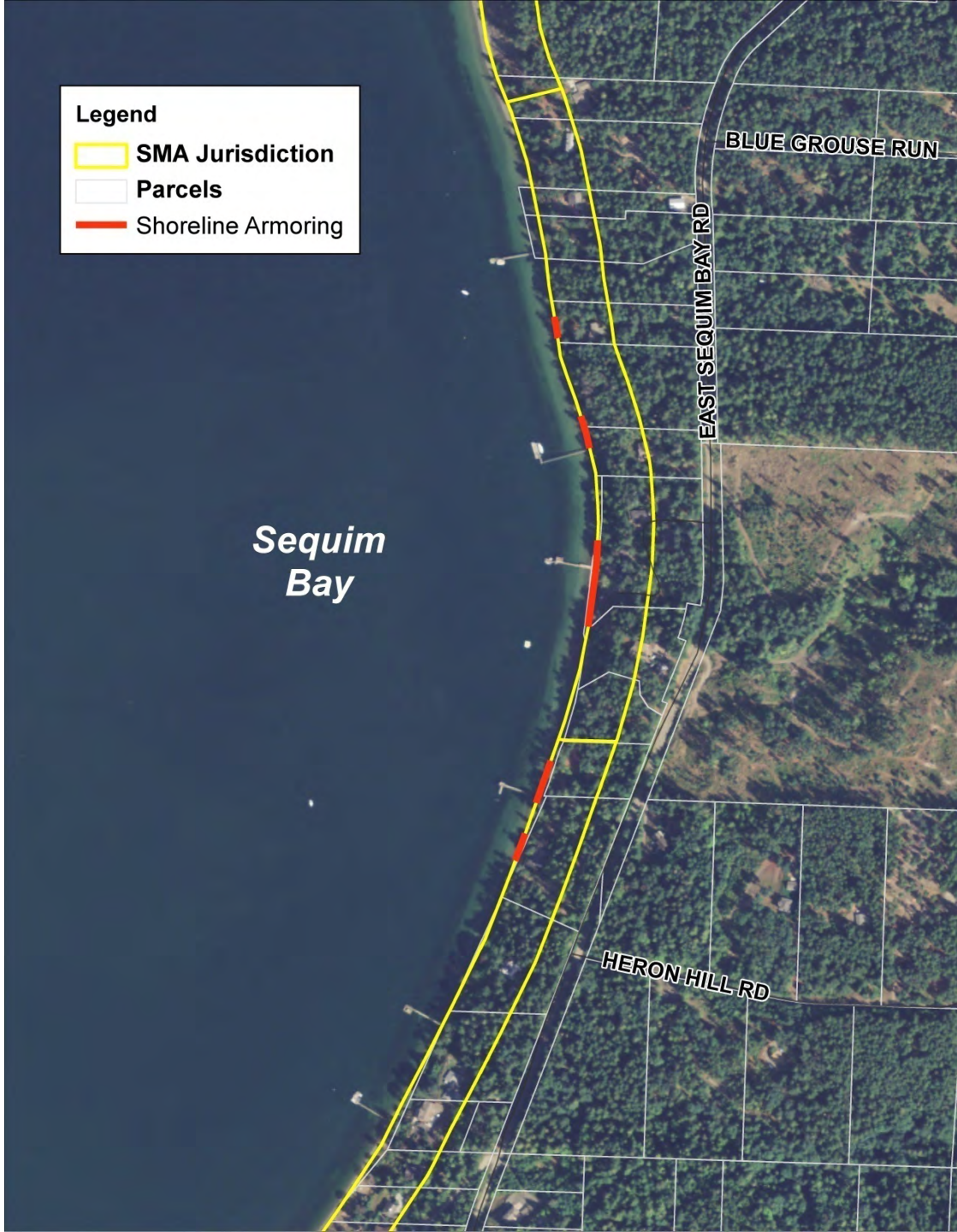
- 10% of bay shore is armored
- Numerous residential docks
- Minimal potential for new homes but high potential for bulks, docks, piers?



Sequim Bay

Functional loss:

- Sediment delivery to spit
- Forage fish spawning habitat
- Salmon migration/rearing



Questions

- What's your view of the potential loss?
- Are the characterizations of current conditions, potential development and risk of loss helpful?
- Are there revisions or additions that would improve the desired outcomes?

Overarching Questions

- Does it make sense to measure NNL at reach and jurisdictional scales?
- Are there revisions to the indicators that would make them more useful?
- Is the relationship between the full inventory and NNL indicators clear?
- Other concerns about defining potential loss in the update of the SMP and during its implementation?

Next Steps

- Refine indicators based on Work Group feedback, feedback of others and guidance from County and Ecology
- Test indicators by applying to NNL approach and Inventory and Characterization
- Prepare findings and issues for next NNL Work Group meeting

Thank You!