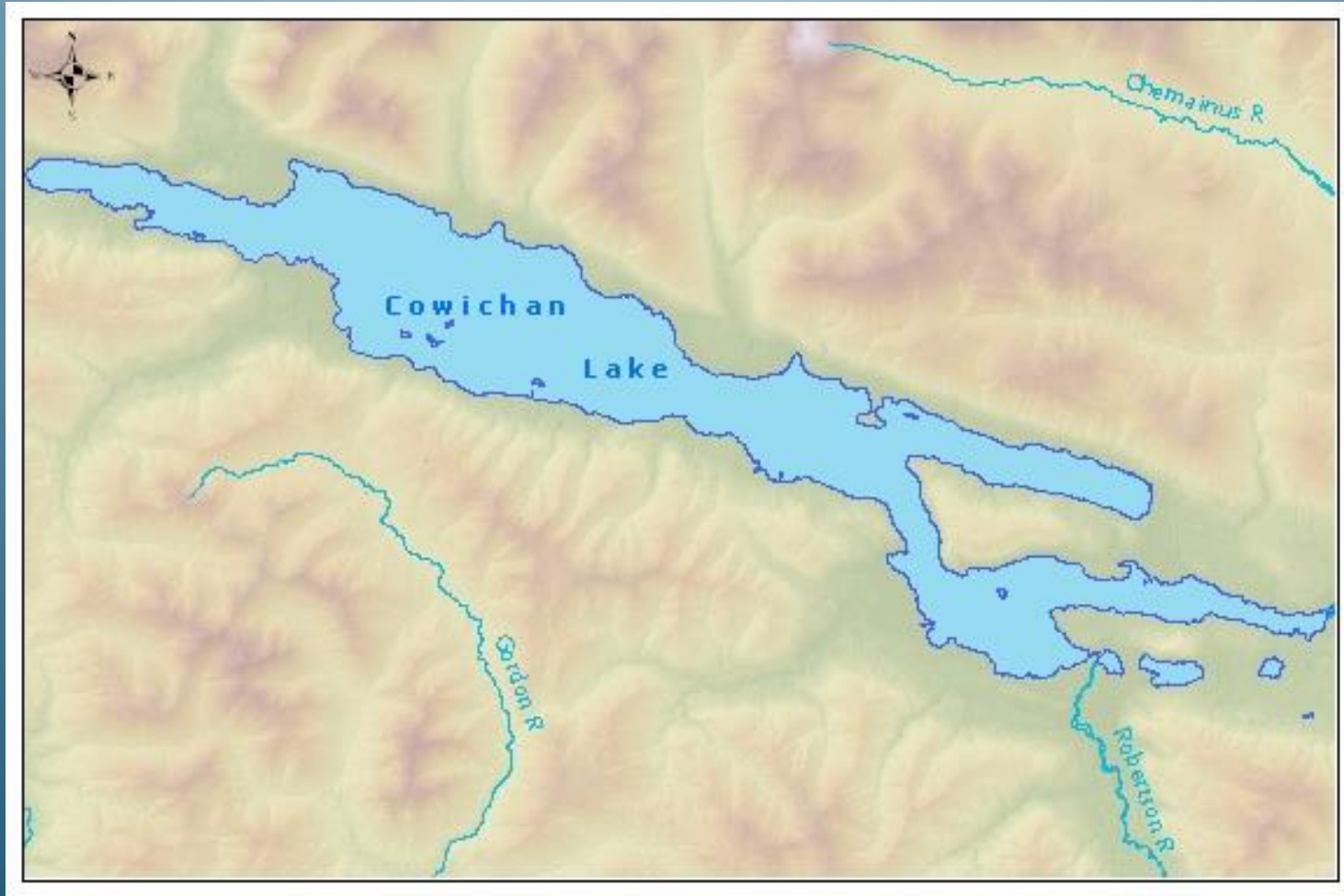


Cowichan Lake Water Levels



Prepared for the Cowichan Watershed Board
LiDAR Project Phase 1

▪ Water Levels and Project Objective

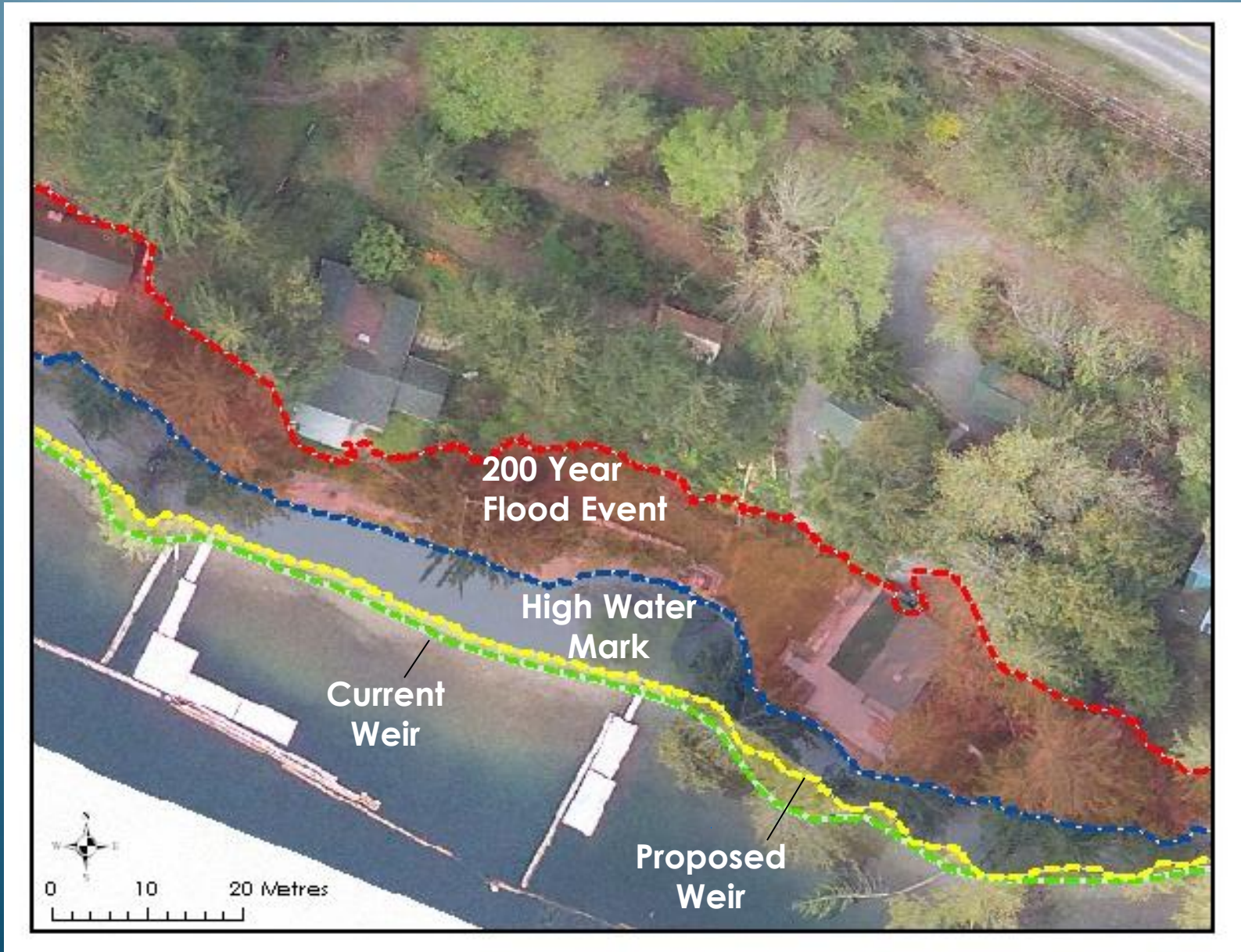
▪ Data

▪ Analysis

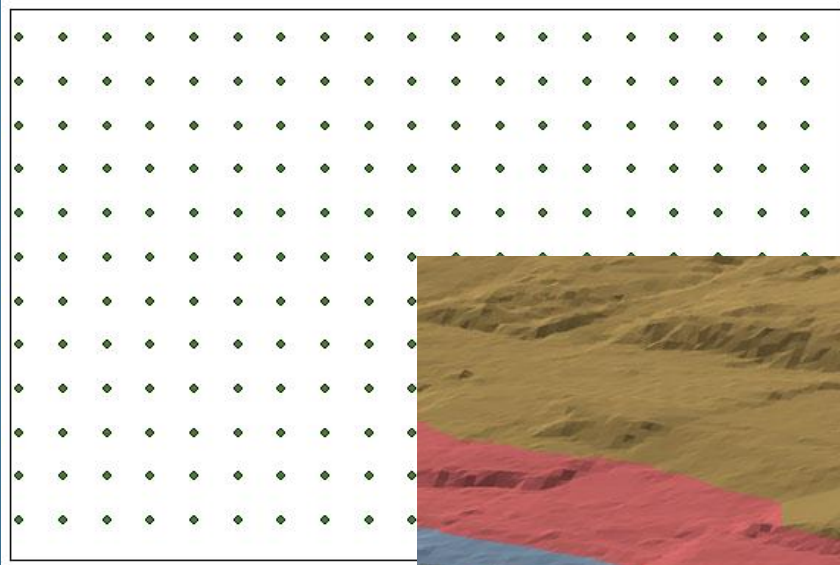
- Horizontal distance
- Property boundaries

▪ Observations

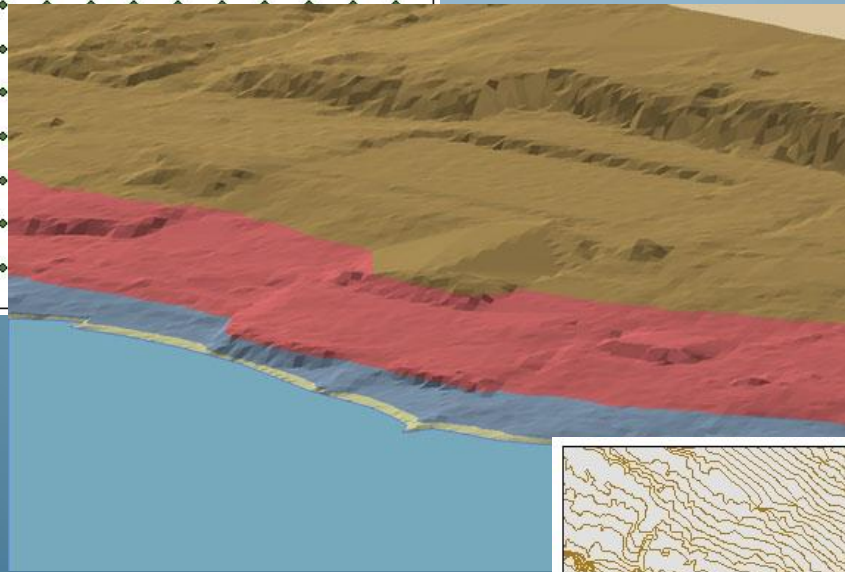
Significant Water Levels and Project Objective



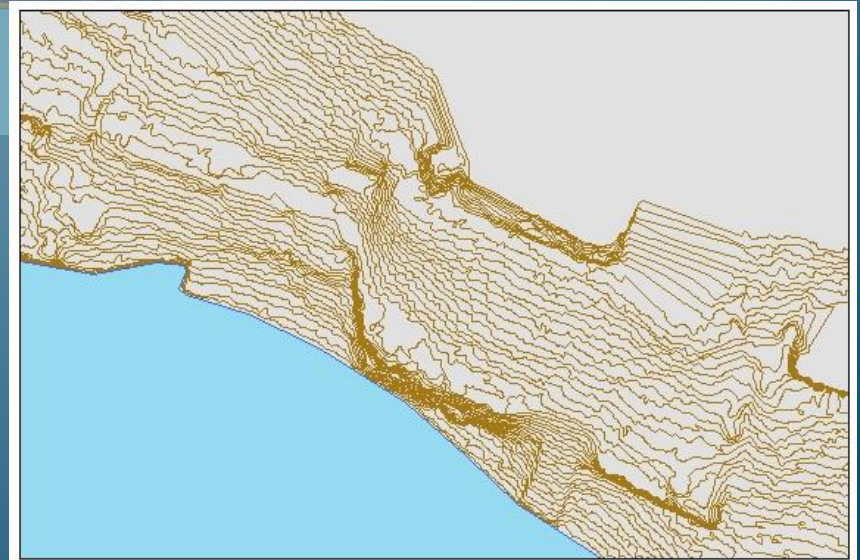
LiDAR Data



Points with ground elevation values



3-D surface model

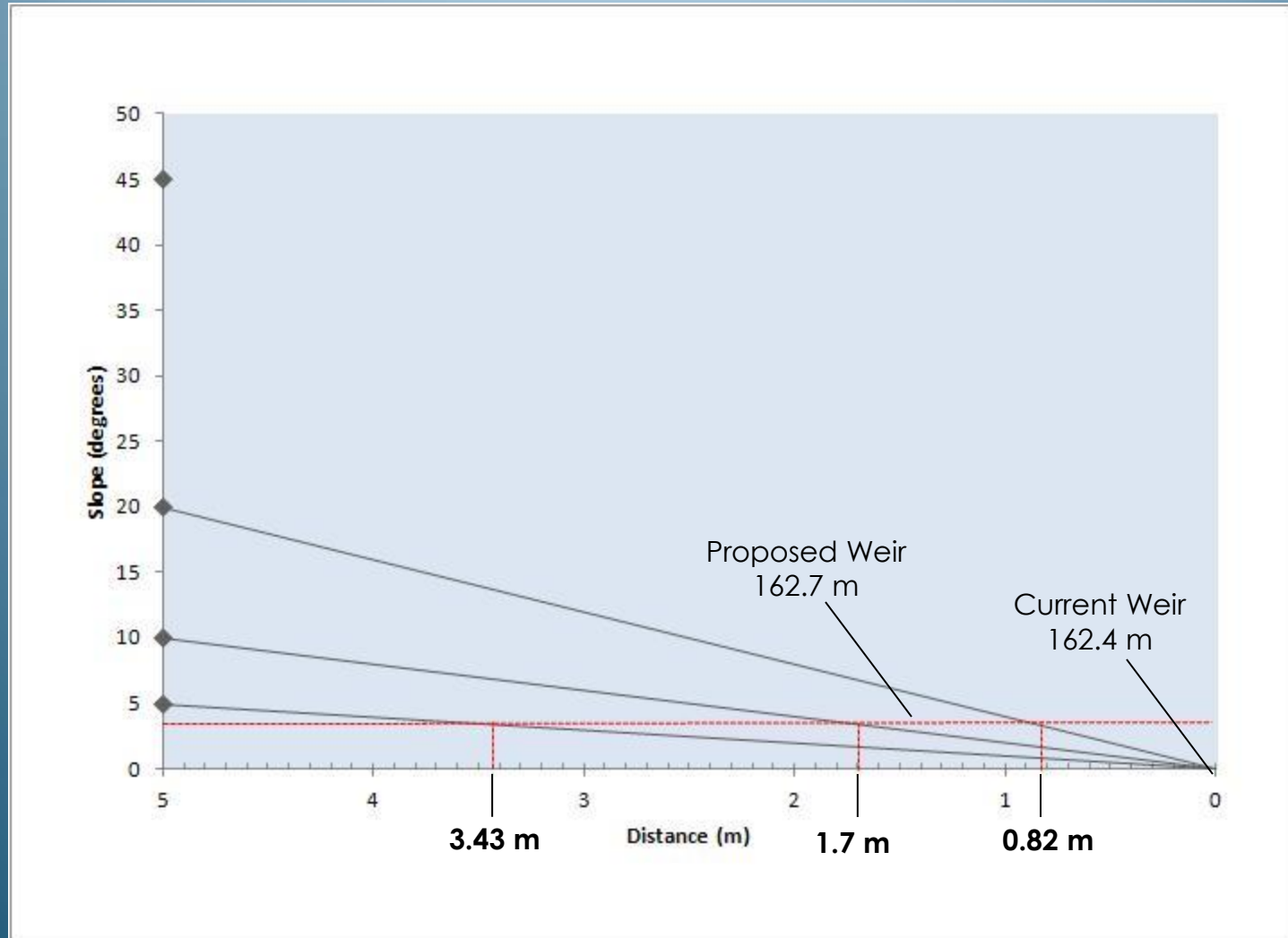


10 cm contours

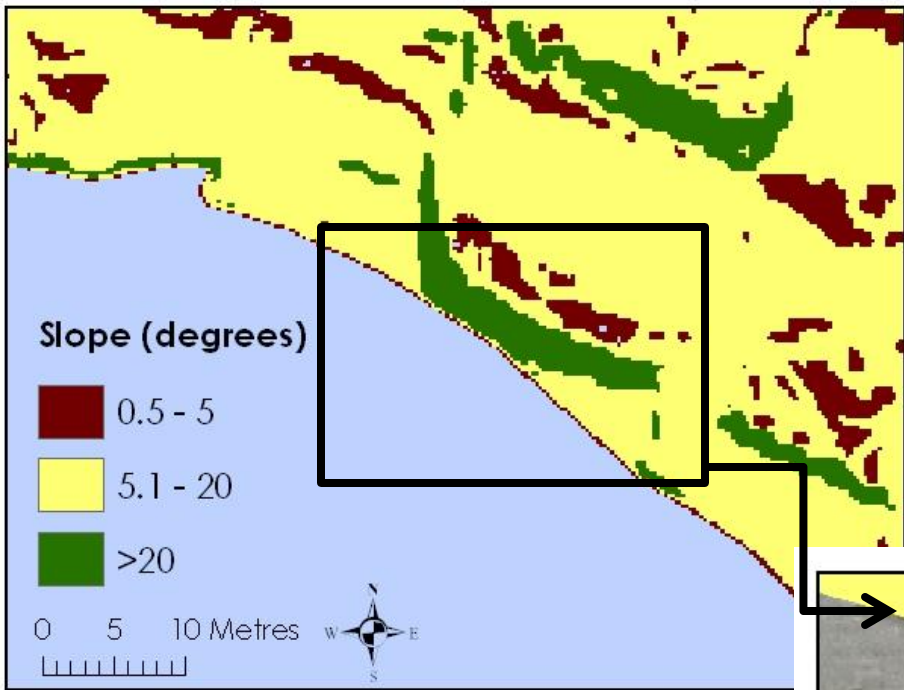
Analysis

- Horizontal distance
- Property boundaries

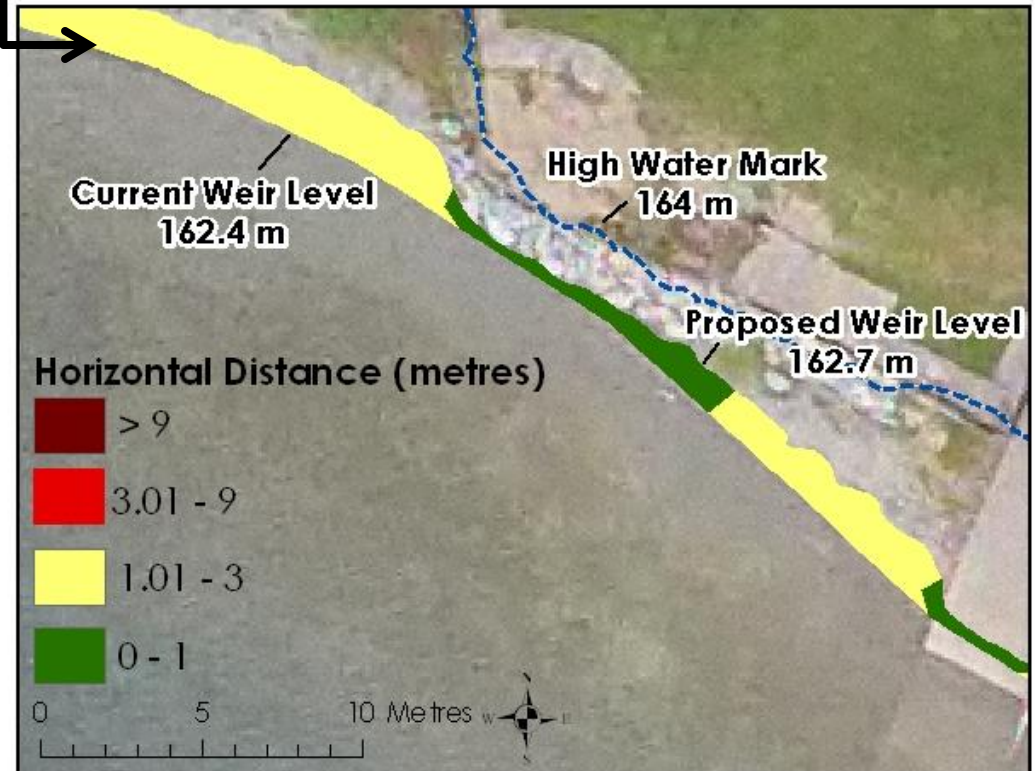
Calculating the horizontal distance



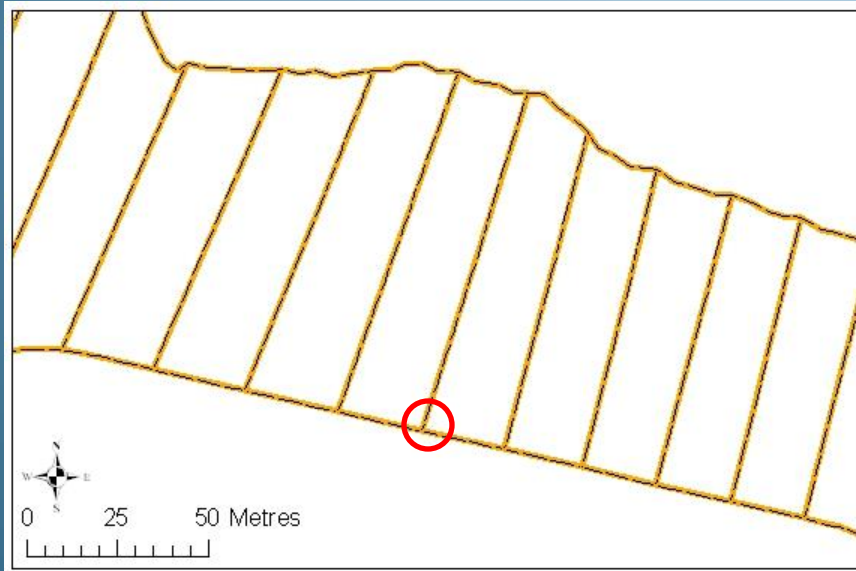
$$\text{HD} = \text{rise} / \tan \text{Slope}$$
$$3.43 \text{ m} = .3 \text{ cm} / \tan 5^\circ$$



Correlation between slope and horizontal distance



Overlaying property boundaries on the imagery



Draw property lines from the survey plan

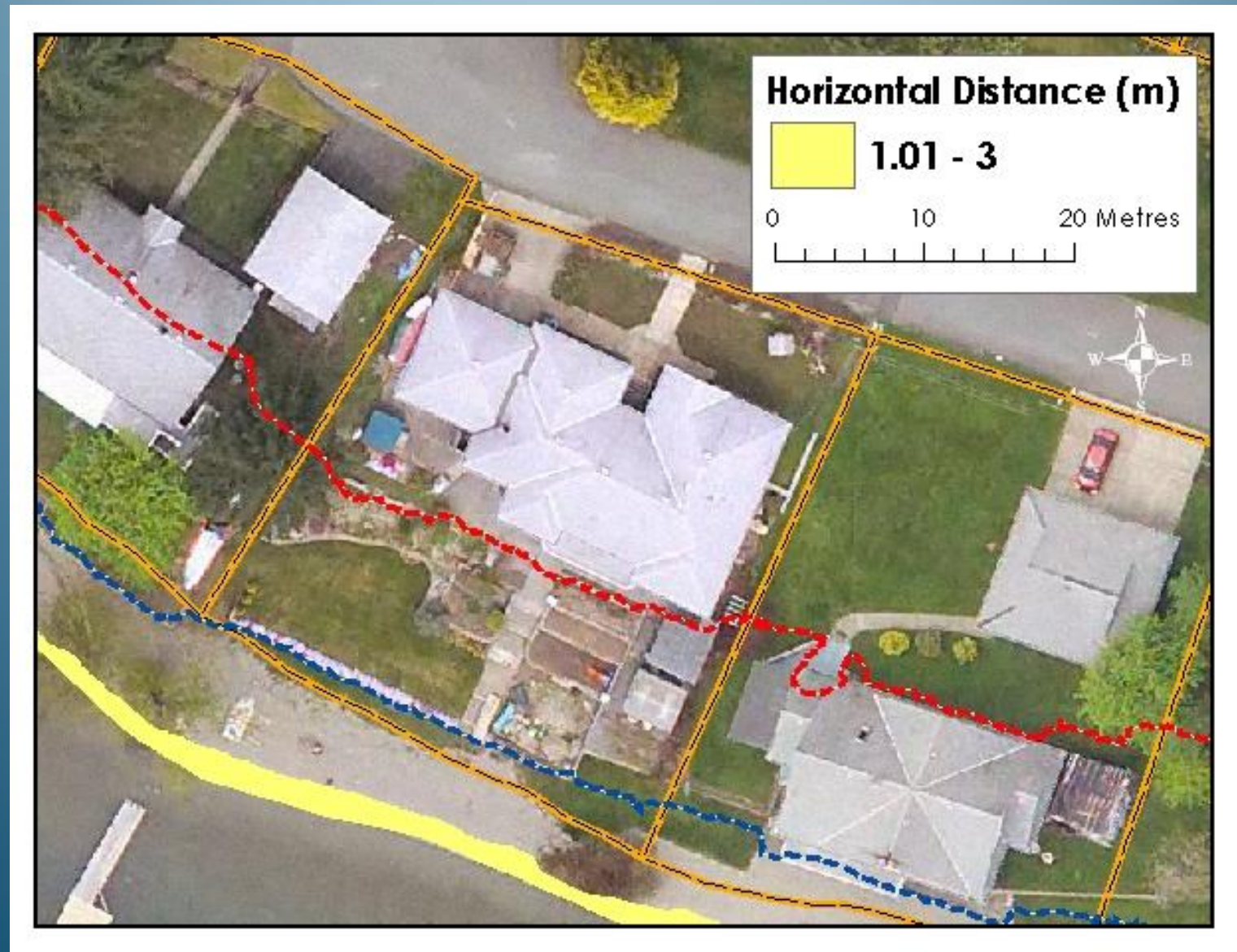


Locate survey pins on the ground

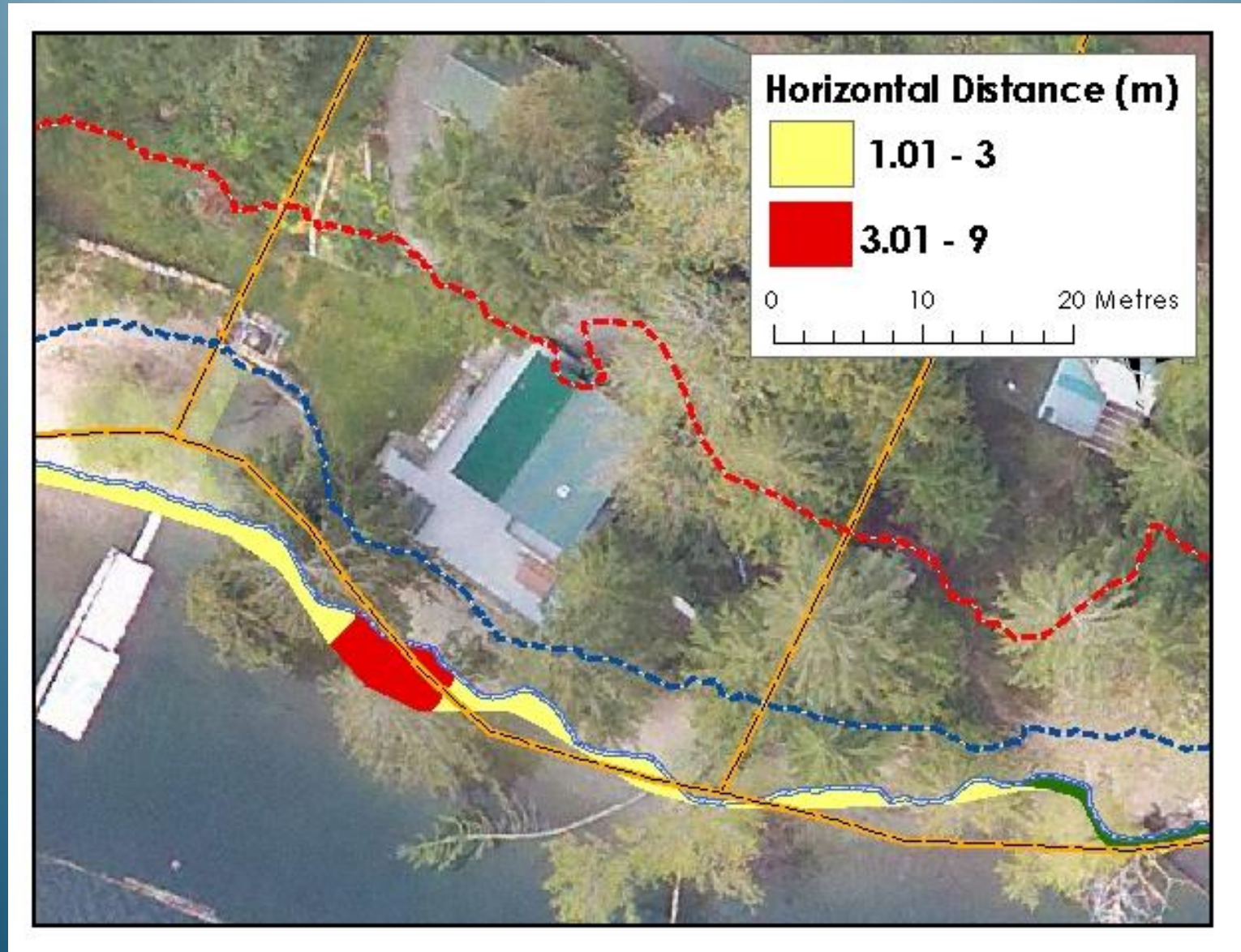


Align property lines with location of the survey pin

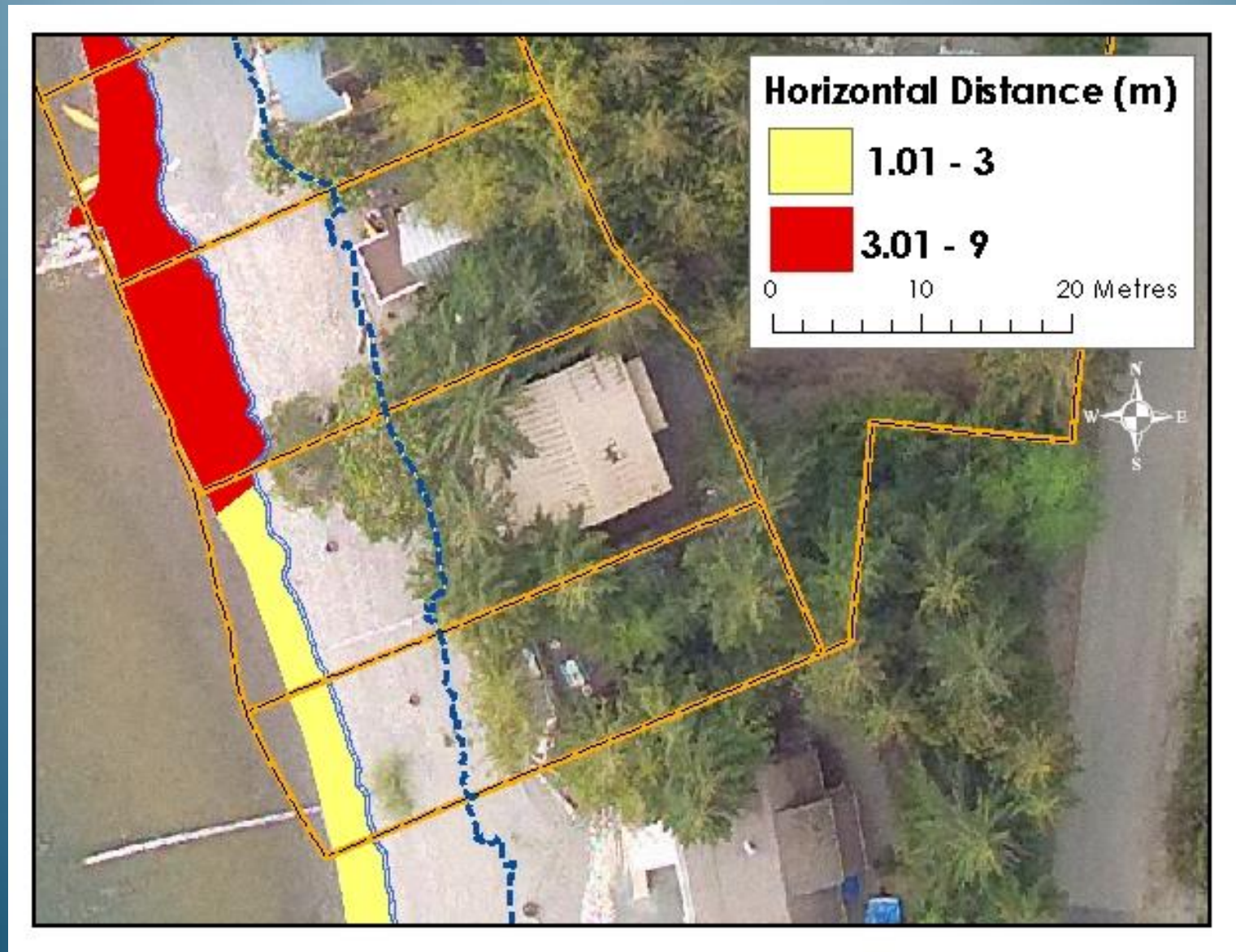
Observations



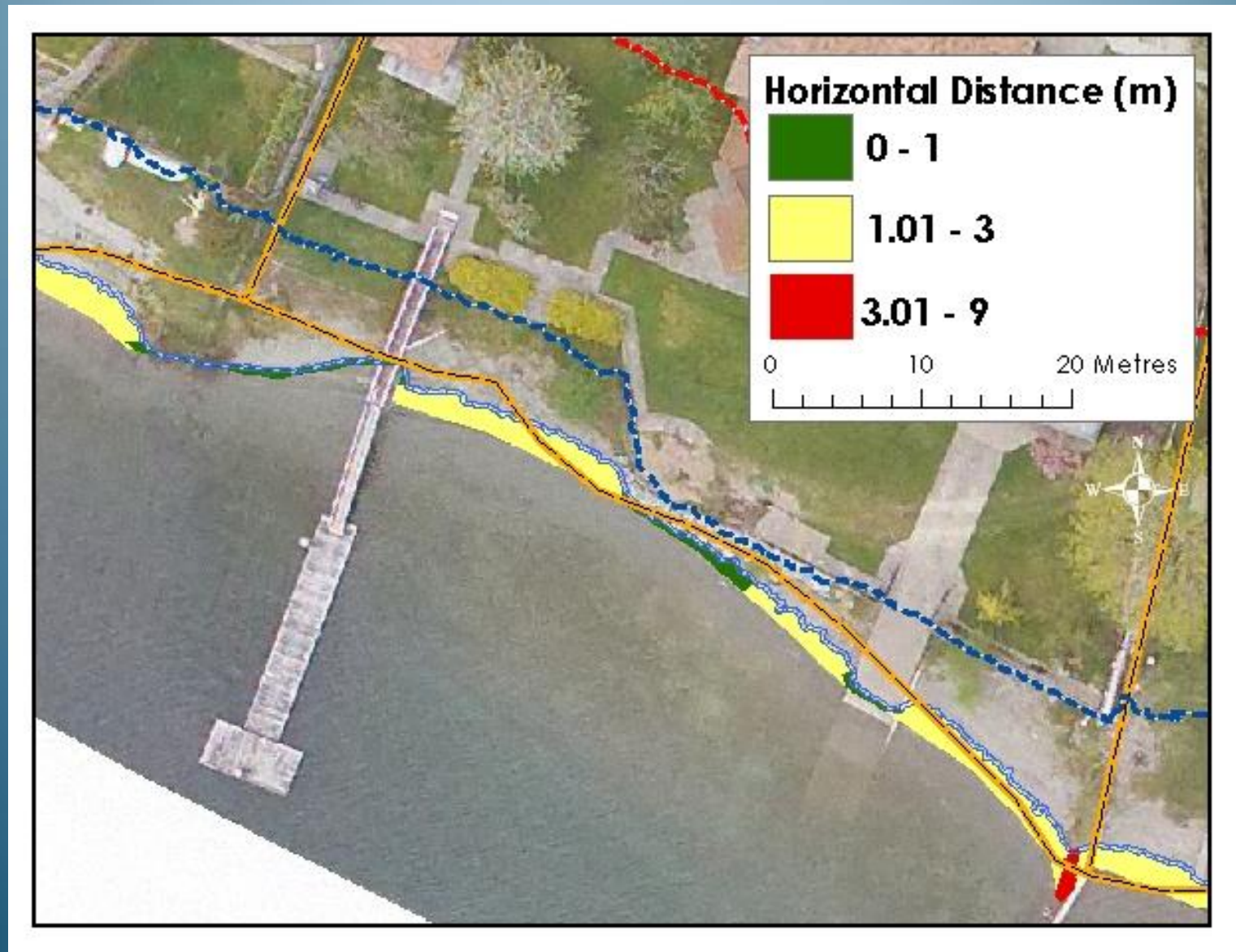
No overlap



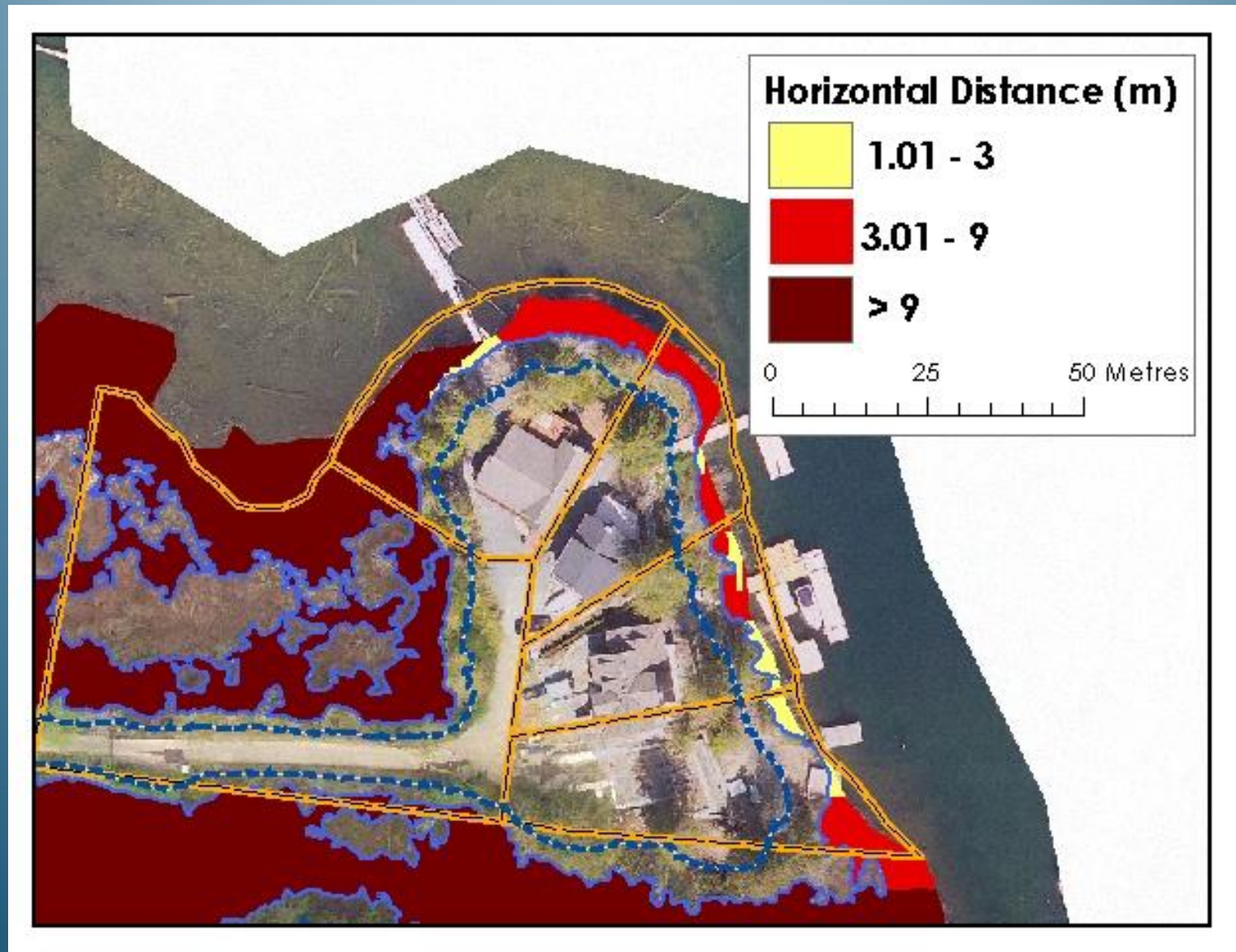
Partial overlap



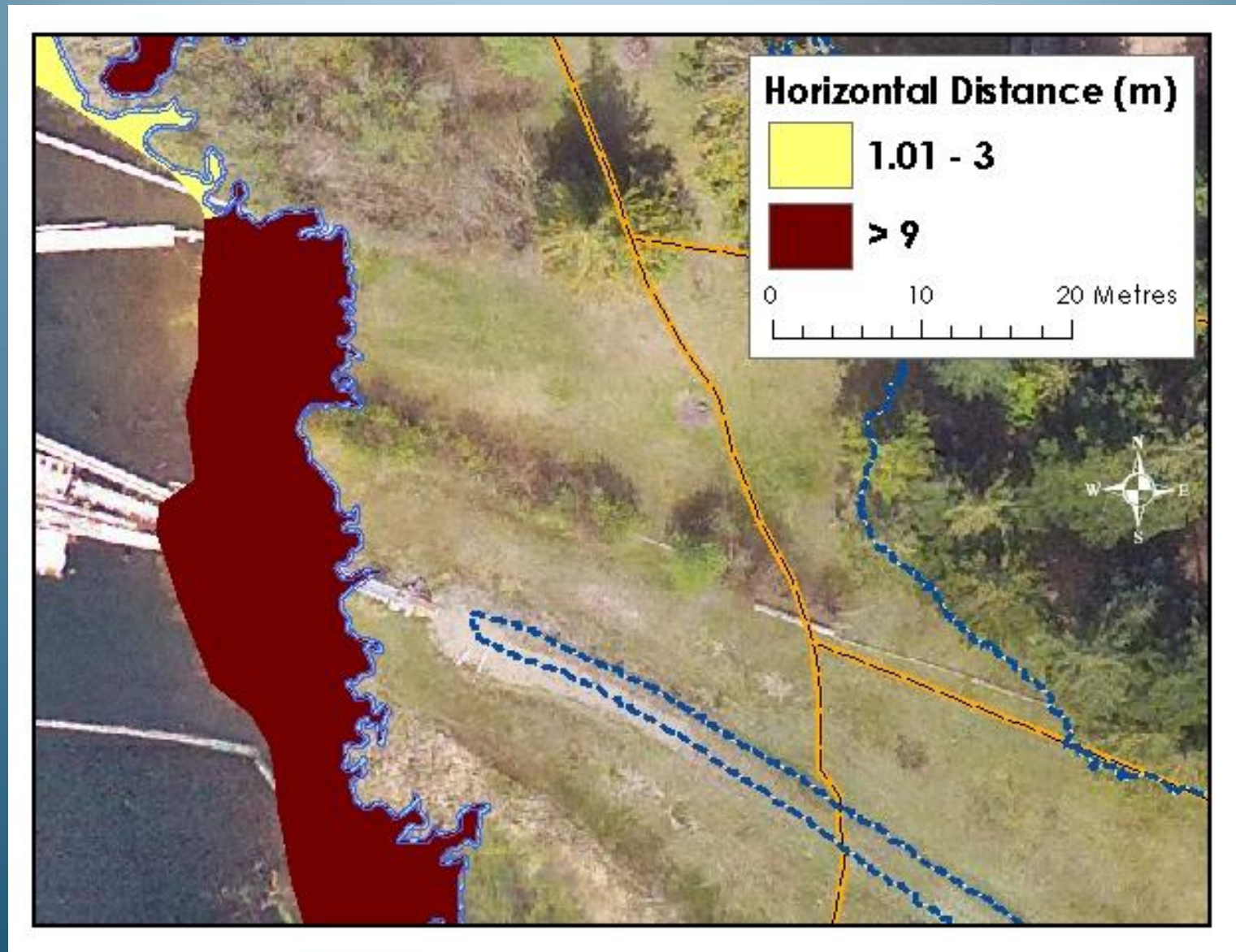
Complete overlap



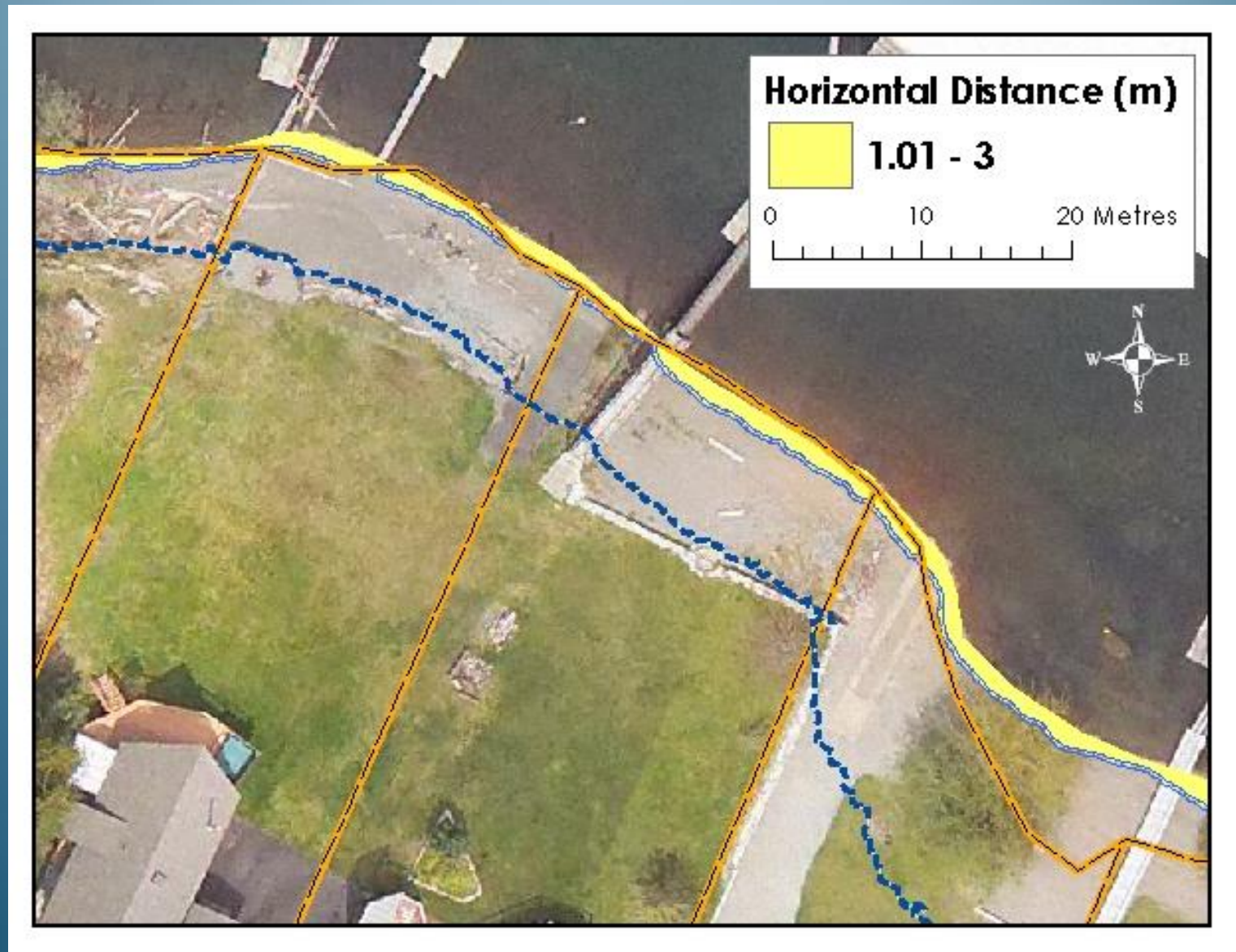
Youbou



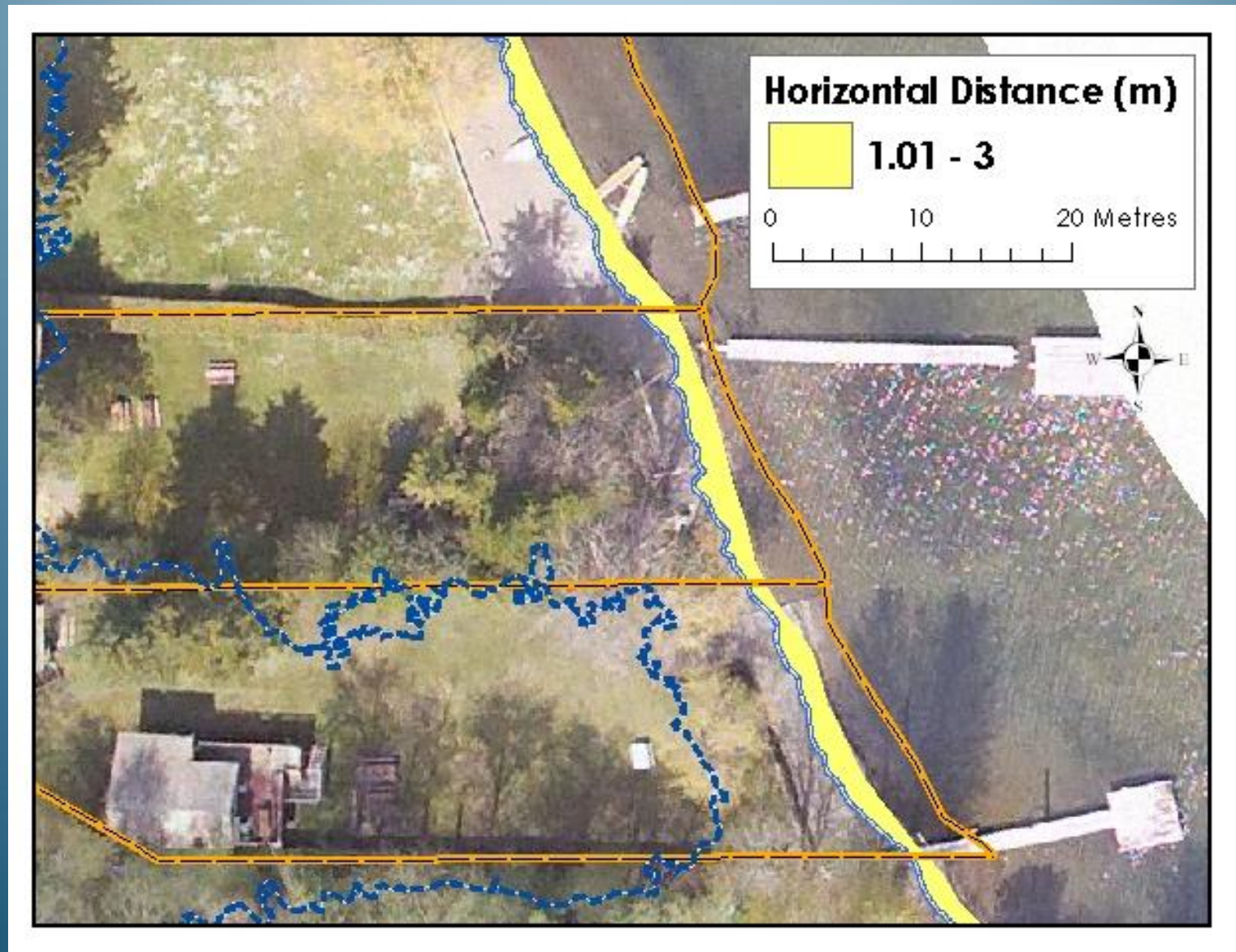
Town of Lake Cowichan



Bear Lake



Honeymoon Bay



Gordon Bay

Recommended Next Steps

- Classify the entire shoreline based on the horizontal distance
- Determine the number of properties within each class



Questions?