



July 21, 2016



# Public Meeting: Lummi Island Quarry Restoration



# Meeting Agenda

- Introductions (5 minutes)
- Project History (5 minutes)
- Scope and Timeline of Feasibility Study (10 minutes)
- Overall Vision for the Site (10 minutes)
- Discussion of Potential Project Elements (20 minutes)
- Question/Answer Discussion (20 minutes)
- Public Comment (20 minutes)

# Introductions

# Project Partners

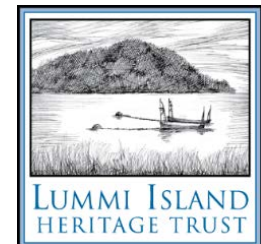
## Northwest Straits Foundation

- Non-profit partner of the Northwest Straits Marine Conservation Initiative
- The Foundation works to protect and restore the marine environment by promoting and implementing science-based restoration and stewardship in collaboration with the seven Marine Resources Committees.
- Programs and projects:
  - Derelict fishing gear removal
  - Nearshore habitat restoration
  - Monitoring
  - Outreach and Education



## Lummi Island Heritage Trust

- Mission is to create a legacy of abundant open space, habitat, and natural resources on Lummi Island by inspiring people to protect and care for the Island's farms, forests, wetlands, and shorelines.
- 1,088 acres protected
  - Four preserves
  - 700 acres in conservation easements owned by 16 landowners



# Additional Partners

## Whatcom County Marine Resources Committee

- Citizen advisory committee established by the County Council to protect and enhance the local marine environment and contribute to the protection of the marine environment of the Northwest Straits.
- MRC will lead the pre and post construction citizen-science monitoring.



## Whatcom County Parks and Recreation Department

- Will assist with the visioning and eventual development of public access.



## Washington Department of Natural Resources

- Surface Mine Reclamation Program will provide oversight of the reclamation to a public use and access area.



# Project Team



## PROJECT PARTNERS

Northwest Straits Foundation,  
Lisa Kaufman  
Lummi Island Heritage Trust,  
Rebecca Rettmer

## ADDITIONAL PROJECT PARTNERS

Whatcom County Marine Resources  
Committee  
Whatcom County Parks and Recreation  
Washington State Department of  
Natural Resources

## PRINCIPAL IN CHARGE

Derek Koellmann, AICP

## PROJECT MANAGER

Kathy Ketteridge, Ph.D., P.E.

## SURFACE MINE RECLAMATION

Roy Garrison<sup>1</sup>  
Erick Staley, LEG<sup>1</sup>  
Paul Pittman, LEG<sup>2</sup>

## SHORELINE RESTORATION AND ARMOR REMOVAL

Kathy Ketteridge, Ph.D., P.E.  
Brian Keenan, P.E.  
Randy Mason, P.E.

## FISH BIOLOGY, NEARSHORE ECOLOGICAL SYSTEM PROCESSES, AND PUBLIC ACCESS

Paul Schlenger<sup>3</sup>  
John Small, PLA, ASLA  
Peter Hummel, PLA, FASLA, LEED AP

## STAKEHOLDER AND PROJECT PARTNER COORDINATION

Kathy Ketteridge, Ph.D., P.E.  
Peter Hummel, PLA, FASLA, LEED AP

## CONSTRUCTABILITY

Mike Roberts, P.E., CCM  
Brian Keenan, P.E.

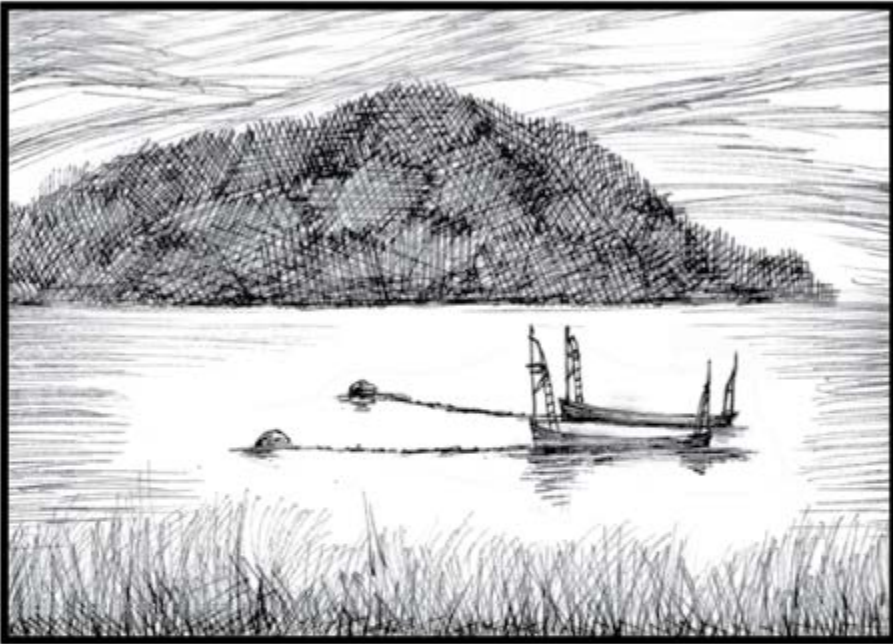
## REGULATORY STRATEGY

Derek Koellmann, AICP

### Legend:

- 1 = GeoDesign, Inc.
- 2 = Element Solutions
- 3 = Confluence Environmental Company

# Project History



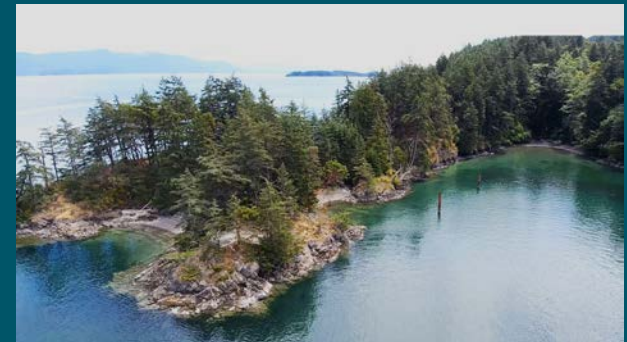
LUMMI ISLAND  
HERITAGE TRUST

*Preserving the Nature  
of Lummi Island*



# Project History

- June 2013 Lummi Rock Receivership
- July 2013 LIHT Task Force
- 2014 Negotiations, Funding feasibility, Grant applications
- Jan – June 2015 Negotiations, Grants, Partners
- July 2015 LIHT offer accepted
- September 2015 LIHT purchased
- Oct 2015 – Public Meeting #1
- Oct 2015 – July 2016 Aiston Preserve Campaign
- March 2016 – hire Anchor QEA



# Proposed Vision for the site



- Acquire – completed June 30, 2016
- Restore – 2017 to 2018 (funding dependant)
- Develop – 2018 to 2019 (funding dependant)
- Steward

# Scope of Feasibility Study

# Scope of Feasibility Study

- Coordination with DNR to understand their requirements for mine reclamation at the site
- Evaluate existing (and past) site conditions
- Identify site constraints and opportunities
  - Reclamation
  - Restoration
  - Public access



## Scope, *continued*

- Reach out to the community for their input on the project
- Develop reclamation and restoration options
  - Book end options
  - Figures and cost opinions
- Feasibility Report





# Timeline for Feasibility Study

- May – Start Feasibility Study
- May to July – Evaluate Existing Site conditions and coordinate with DNR
- July through August
  - Complete analysis of site constraints and opportunities
  - **July 21, Public Meeting #2**
  - Develop options and follow up coordination with DNR
- Mid September - Feasibility Report

# Future Steps

- Public presentation of preferred options
- Obtain funding for preliminary design and permitting phase
- Permit Ready Design
- Develop permitting documents (including DNR permit)
- *Final Design*
- *Construction*



Work in Progress

# Evaluate Existing Site Conditions



# Slope Stability





## Hydrology

- Flows are seasonal; site dry in summer
- Seasonal flows captured by existing water tank and stormwater system (on mine floor)
- May support seasonal wetland



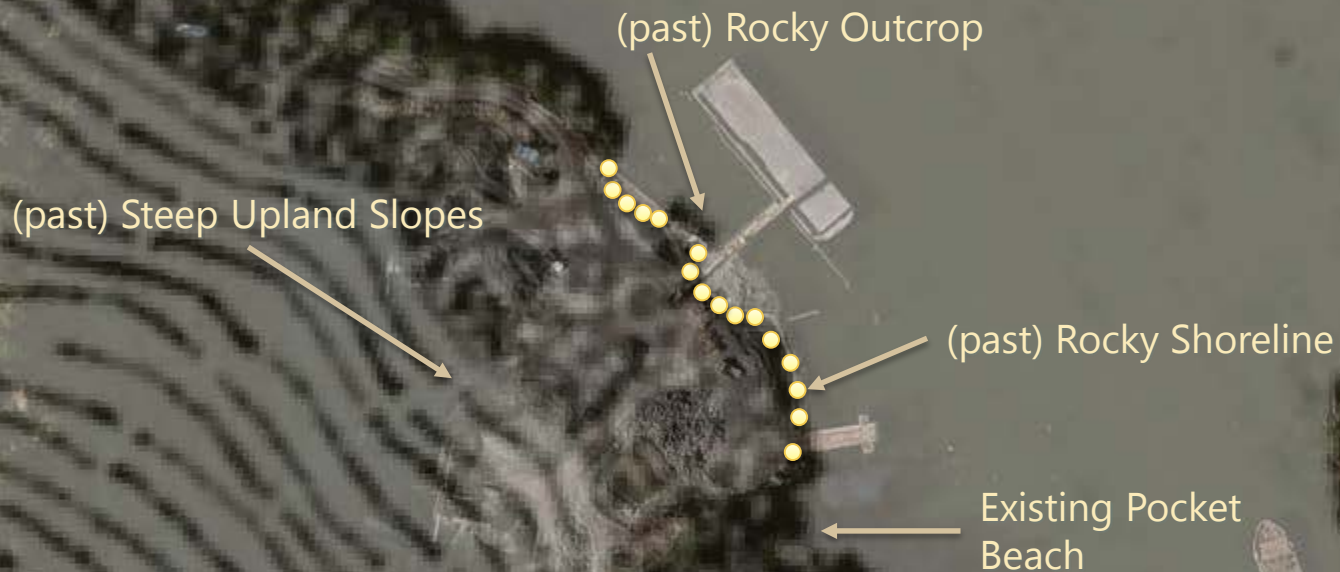


## Existing Shoreline Conditions

- Gravel and rock fill used to push historical shoreline seaward
- Slope armored with various sizes of armor rock
- Dock structures



# Historical Shoreline Conditions



# Other site conditions evaluated

- Existing vegetation
- Habitat areas
- Top soil stockpiles
- Nearshore habitat
  - Eelgrass
  - Kelp
  - Beaches
- Existing gravel roads
- Potential access points
- Views



# Overall Vision for Site and Proposed Project Elements

# Overall Vision for the Site



## LEGEND

- Road Access
- P Parking
- ..... Approximate Property Line
- Existing gravel roads to be used as trails
- Potential trail connection with beach area
- Existing pocket beaches
- Plant and wildlife protected areas
- Potential mooring area
- Seasonal wetland, no public access
- Set back area
- Shoreline restoration

# Discussion of Project Elements

- Mine reclamation
- Protection of existing sensitive areas
- Vegetation and habitat restoration
- Shoreline restoration
- Access to the site
- Beach access
- Use by motorized and non-motorized water craft
- Trails
- Public use amenities
- Other ideas



# Protection of Existing Sensitive Areas



# Vegetation and Habitat Restoration

- Vegetate impacted areas (mined slopes) to extent practical
  - Provide top soil and other planting media from site
- Allow available surface water flow to feed seasonal wetland area
- Develop riparian vegetation along impacted shoreline area



# Shoreline Restoration

- Remove excess fill and armor rock from impacted shoreline
- Restore historical pocket beaches
- Remove angular gravel fill from intertidal beach areas
- Place rounded and appropriately sized beach substrate to impacted areas



# Access to the Site



# Beach Access



- Public may access the beach from parking area – walk down gravel road/trail from parking area to beach
- Public may also access the beach from the water side via non-motorized boats (i.e. kayaks) or using dinghies from moored vessels

# Boat Access (non-motorized and motorized)



- Moorings for motorized vessels in smugglers point
  - Balance number of moorings with habitat needs in area (kelp and eelgrass)
- Beach landing for non-motorized vessels at existing and restored pocket beaches (i.e. kayaks and dinghies)
- Beach landing for motorized vessels for emergency access

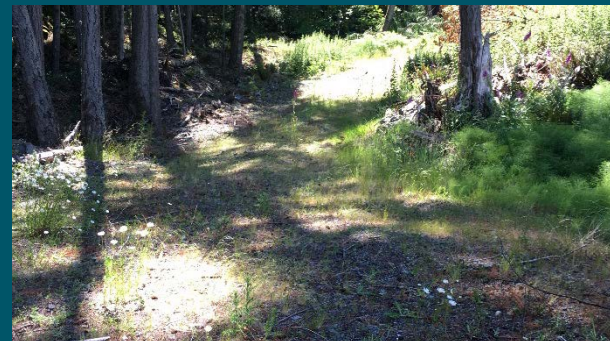
# Trails

- Trails would follow a sub-set of existing gravel roads on north side of site
- Potential for trail across one of the upper shelves for views and access to other parts of the site
- Potential for “back country” trails in the non impacted areas of the site
- Potential for loop trail system, depending on results of slope stability analysis



# Public use amenities

- Focus is on passive, low-impact public use
- Desire to keep required maintenance to a minimum
- Restroom facilities to be provided at parking area at upland access point
- Other amenities could include picnic tables, overlooks, and benches.





# Other Ideas



# Questions/Discussion



# Public Comment



- Provide comments on supplied sticky notes and place them on appropriate topic poster sheets.
- Comments can also be submitted via comment cards this evening.
- Comments can be submitted online at:
  - <https://www.surveymonkey.com/r/AistonPreserve>
  - Deadline (7/31)
  - Northwest Straits Foundation website <http://www.nwstraitsfoundation.org/>
  - Lummi Island Heritage Trust website <http://www.liht.org/>