HAWAIIAN HOME LANDS

HAWAIIAN HOMES COMMISSION · DEPARTMENT OF HAWAIIAN HOME LANDS

Item G-3

So. Molokai Shoreline Erosion Management Plan Project Update

April 19-20 2021

Project Purpose

- Enable DHHL to proactively plan for and manage shoreline erosion
- Investigate underlying causes of shoreline erosion, and likely future progression
- Identify effective and sustainable shoreline erosion management strategies that maintain natural processes and consider community needs
- Educate the community as to causes of shoreline erosion and appropriate management responses.

SM-SEMP Project Area

Kalamaʻula added in 2019

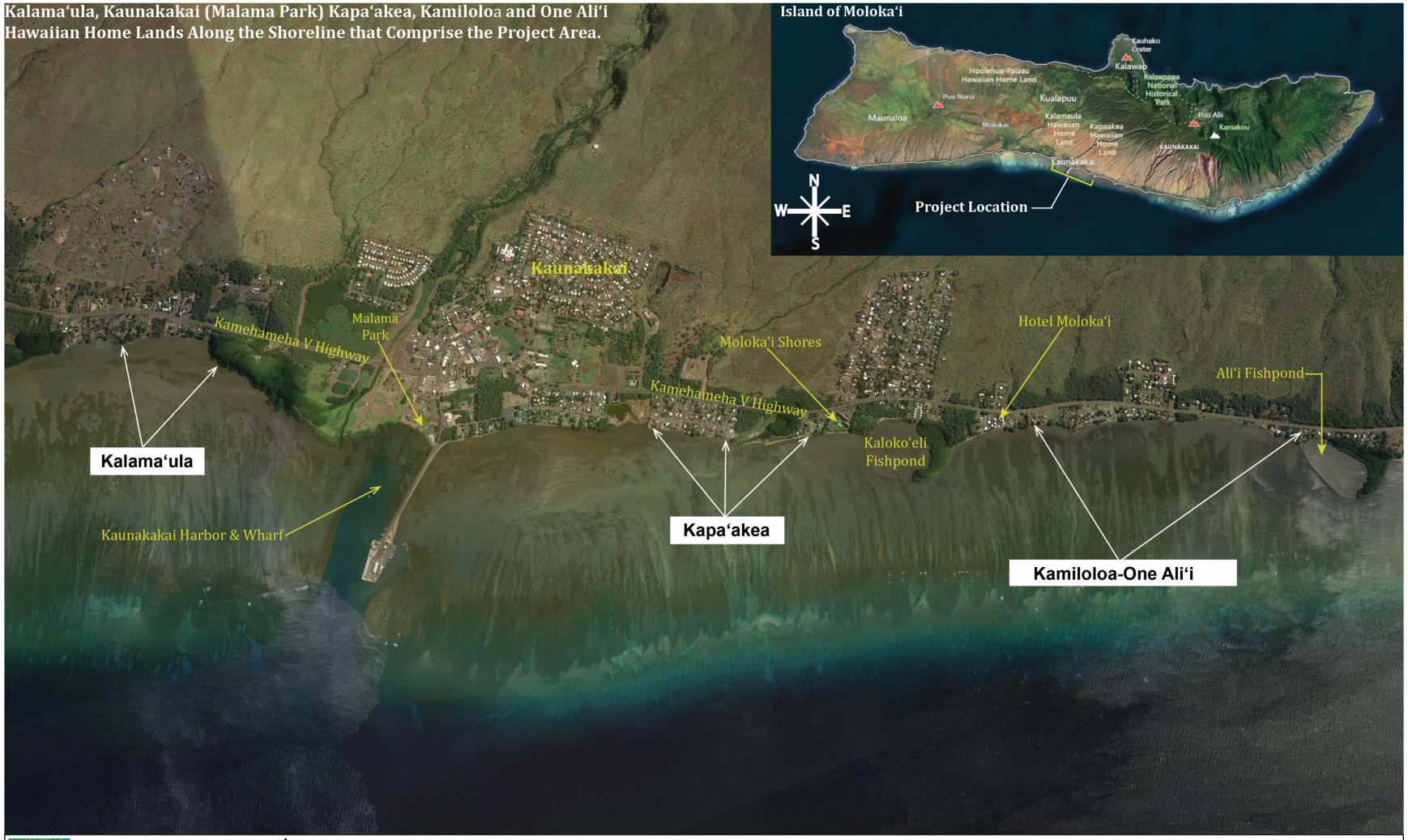
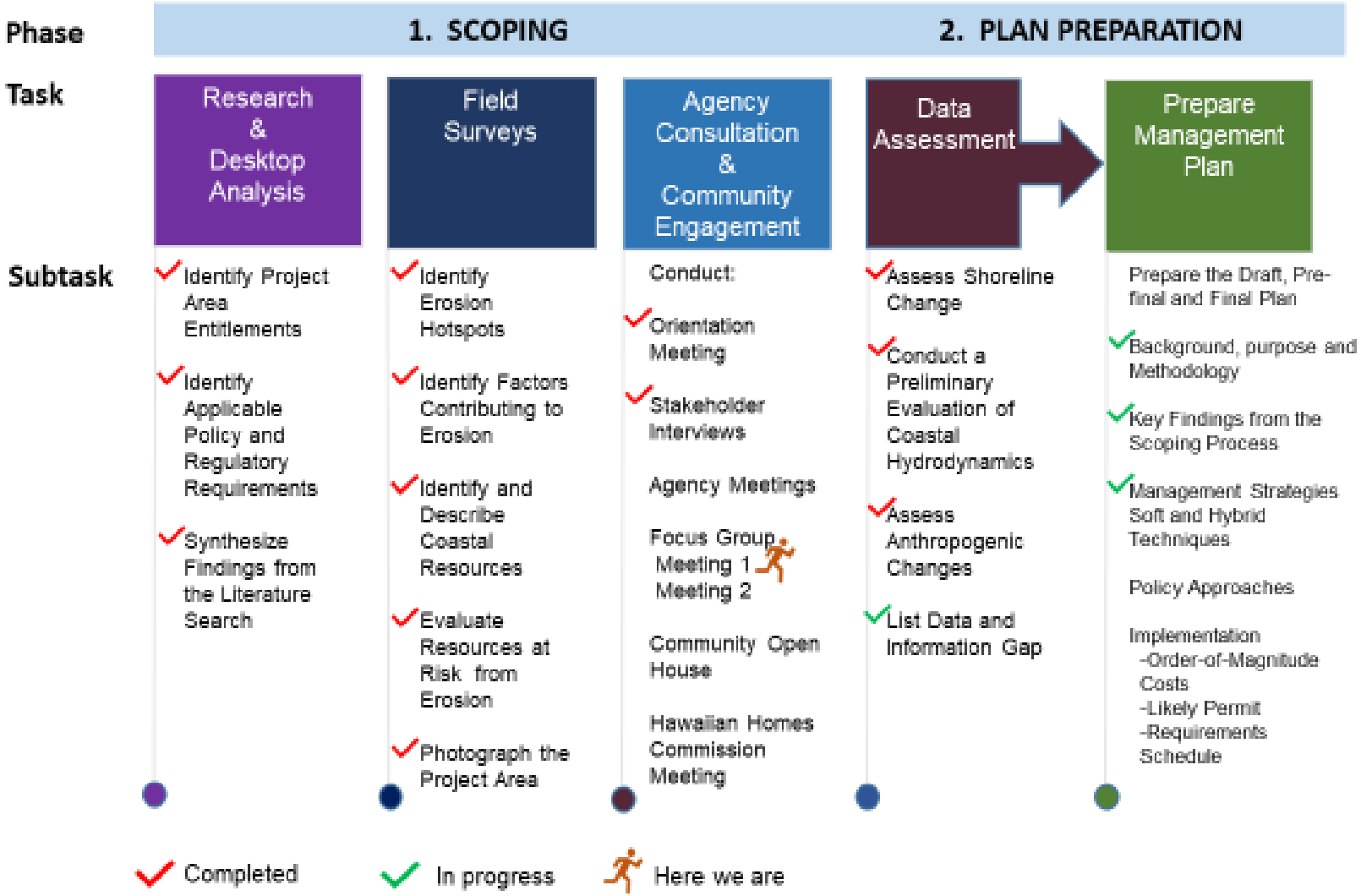


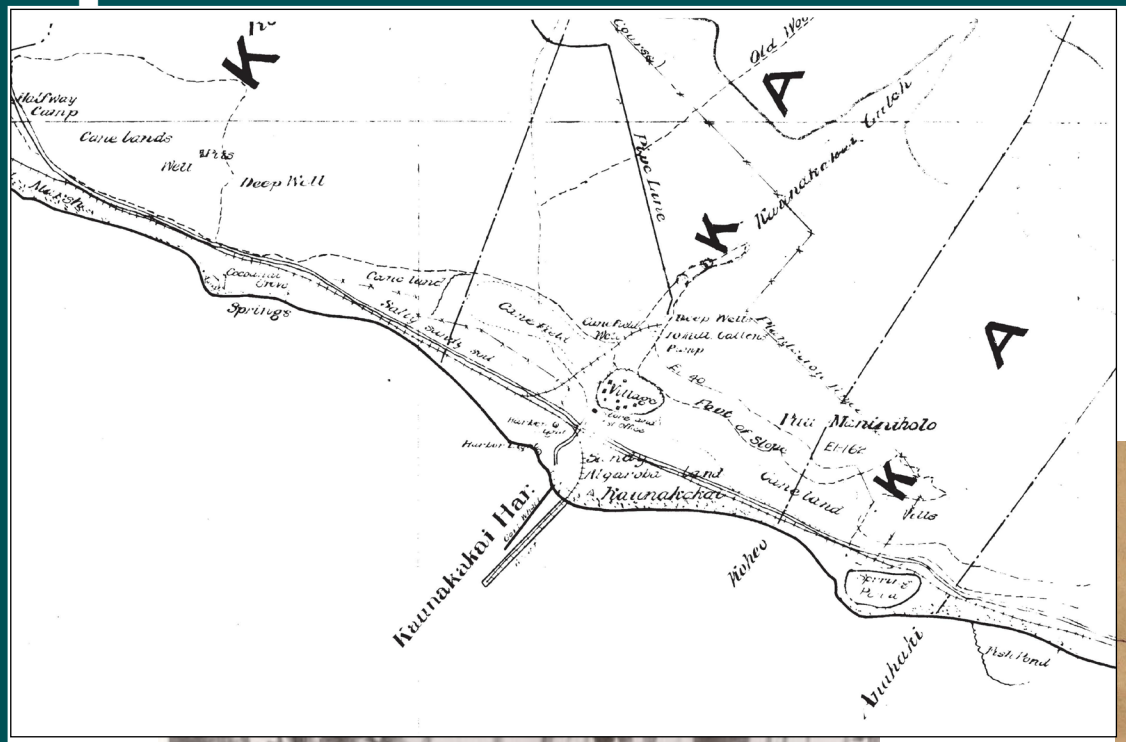
Figure 1.1
PROJECT AREA
Molokaʻi Shoreline Erosion Management Plan

Current Project Status

Planning Process



Molokai's Kona Shoreline in 1900



Molokai's Kona Shoreline Today

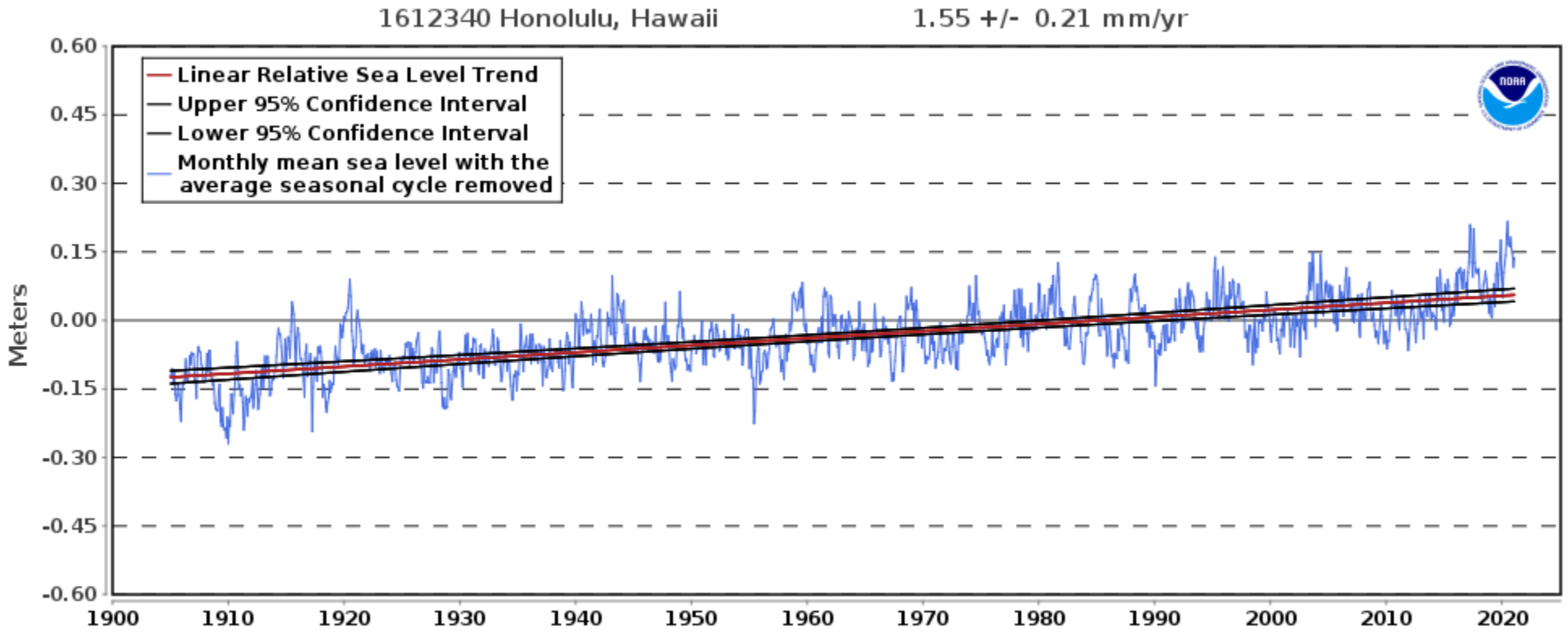
KALAMA'ULA

KAPA'AKEA, KAMILOLOA, MAKAKUPA'IA

Need for Project – Climate Change & SLR

- Sea levels are rising, and rate of change may be accelerating -- sea level around Hilo Bay has risen by 10 inches since 1950, and is now rising faster at about 1 inch every 4 years
- An appropriate planning target would include sea level benchmark of 1 foot by mid-century and into lower end (about 3 feet) of 2.5 to 6.2 ft by end of the century.

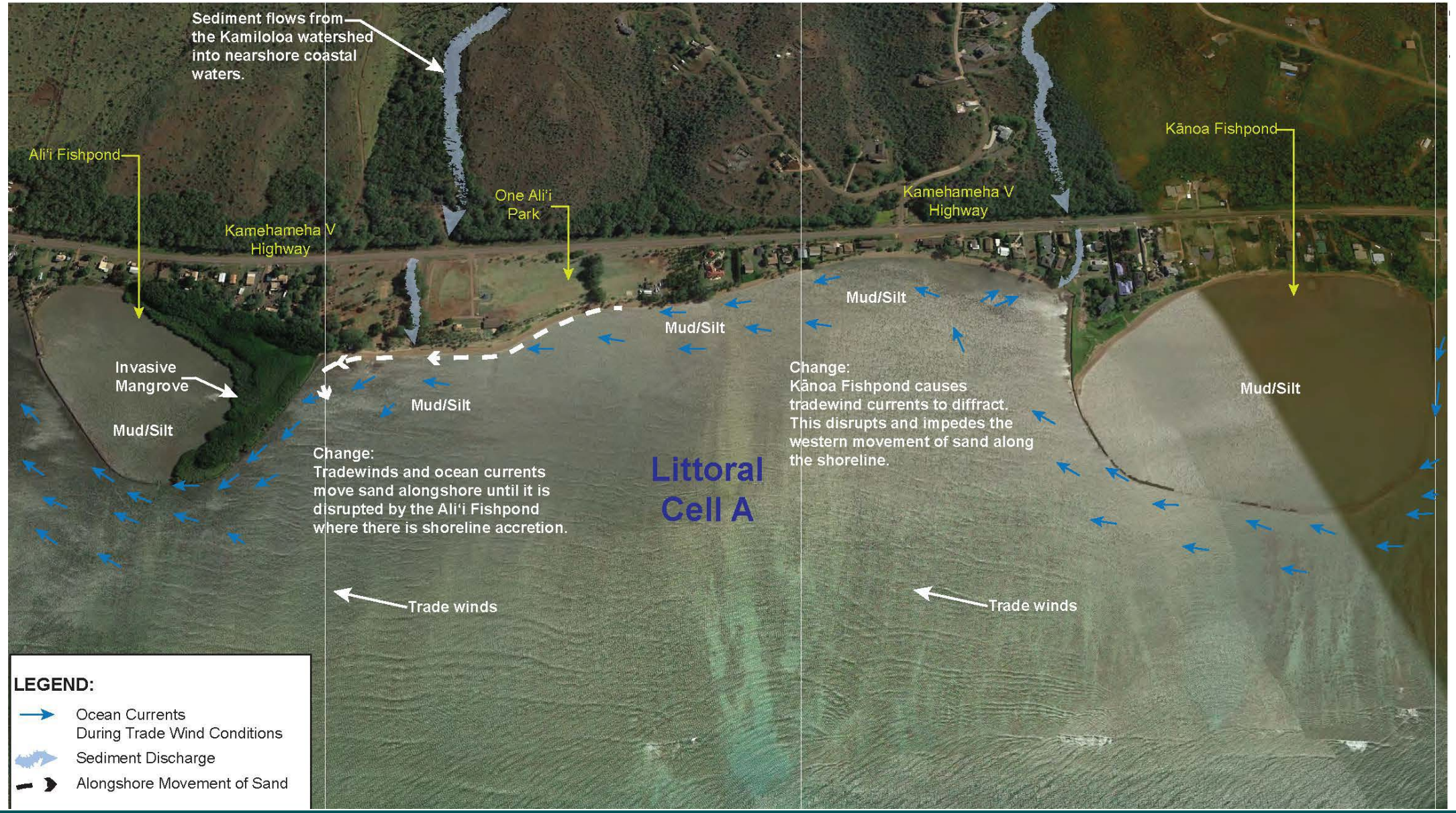
https://climate.hawaii.gov/hi-facts/sea-level-rise/



Changes to Project since last HHC Update

- In response to beneficiary and Commissioner requests, Kalamaʻula added to Project Area; Malama Park in Kaunakakai also added
- Addition triggered changes to project scope, time of performance, and budget
- Kalamaʻula site visits and interviews conducted in Nov. 2019
- Additional research was performed to more adequately document cultural and historic knowledge and sense of place such as ahupuaʻa and place names, wahi pana, pre-contact history, moʻolelo, mele, nā makani, nā ua, nā wai
- COVID-19 travel restrictions caused project delays and necessitated changes to community outreach strategy – smaller focus group meetings added

Coastal Hydrodynamics

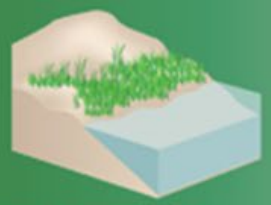


Response Options to Changing Shorelines

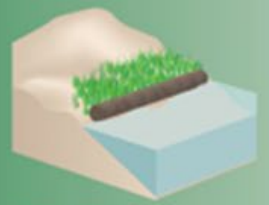
A continuum of green (soft) to gray (hard) shoreline stabilization techniques

GREEN - SOFTER TECHNIQUES → **GRAY - HARDER TECHNIQUES**

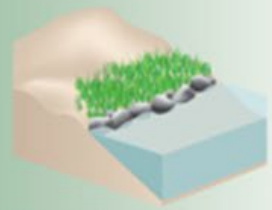
Living Shorelines



VEGETATION ONLY - Provides a buffer to upland areas and breaks small waves. Suitable only for low wave energy environments.

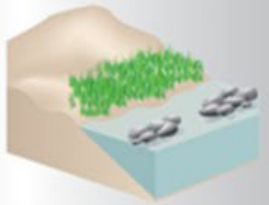


EDGING - Added structure holds the toe of existing or vegetated slope in place.

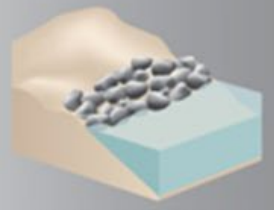


SILLS - Parallel to existing or vegetated shoreline, reduces wave energy, and prevents erosion. Suitable for most areas except high wave energy environments.

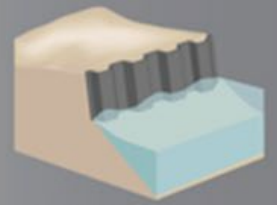
Coastal Structures



BREAKWATER - (vegetation optional) - Offshore structures intended to break waves, reducing the force of wave action, and encourage sediment accretion. Suitable for most areas.



REVETMENT - Lays over the slope of the shoreline and protects it from erosion and waves. Suitable for sites with pre-existing hardened shoreline structures.



BULKHEAD - Vertical wall parallel to the shoreline intended to hold soil in place. Suitable for areas highly vulnerable to storm surge and wave forces.

Next Steps

- Process results from Feb. 10 Focus Group meeting
- Newsletter update to community
- Develop preliminary draft recommendations
- Host a second Focus Group meeting to vet preliminary draft recommendations (early Summer)
- Revise preliminary draft recommendations to reflect input received during Focus Group Meeting #2
- Host a Community Open House (late Summer)
- Prepare Pre-final plan and present to HHC (early Fall)
- Finalize Plan

Mahalo

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