

1/23/2013



QUINAULT  
INDIAN  
NATION

## CAPE ELIZABETH REACH ASSESSMENTS



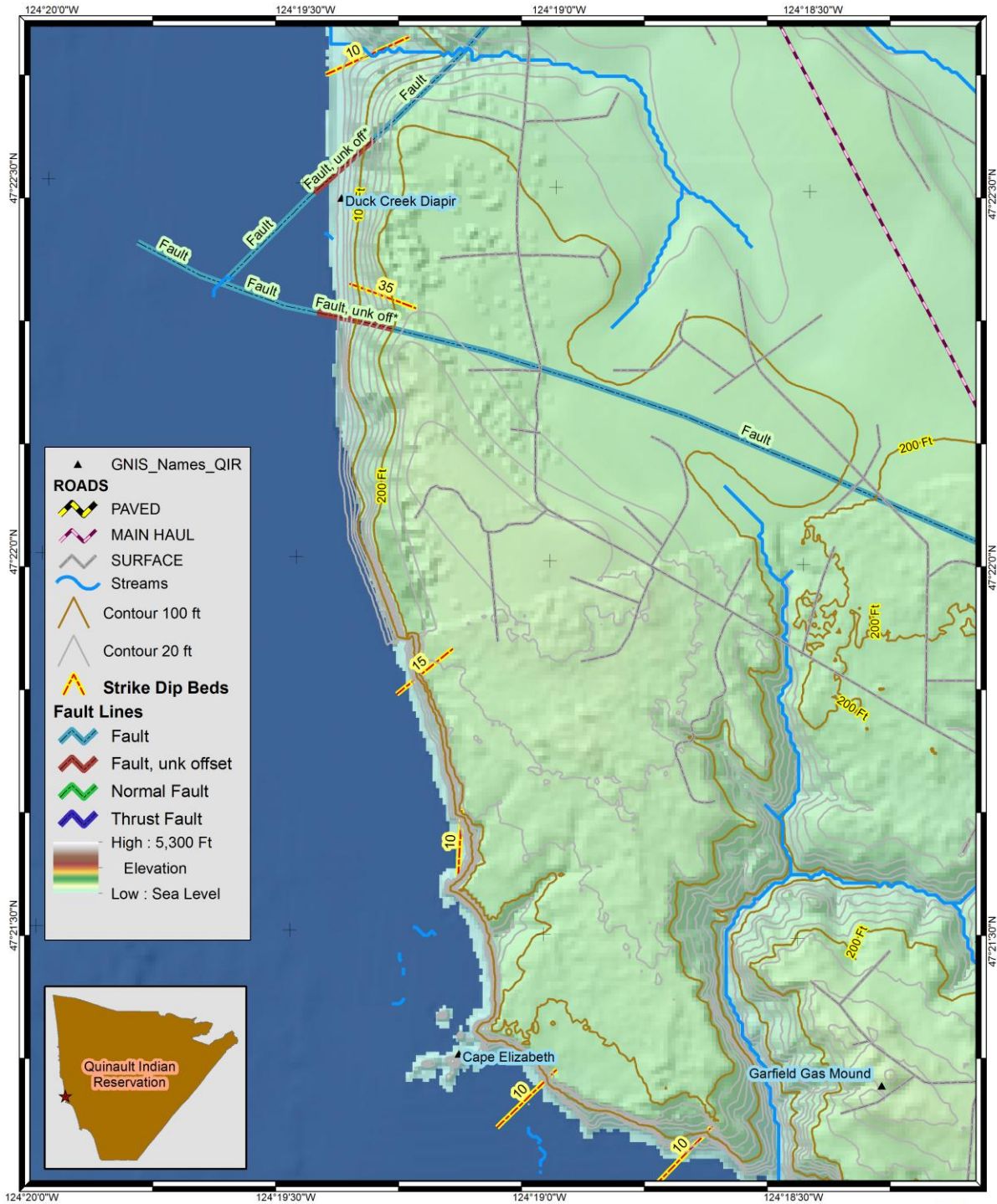
## **Cape Elizabeth Reach Assessment**

### **Quinault Indian Nation Marine Shorelines Management Plan**

This document provides geographic support to the Reach Assessment Descriptions. The Reach Assessment Descriptions document describes the underlying geology, surface soils, and response to changes over time. The maps in this document display changes to the marine coastline during most of the past century for this Reach.



#### Data Sources:

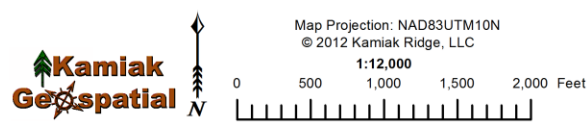
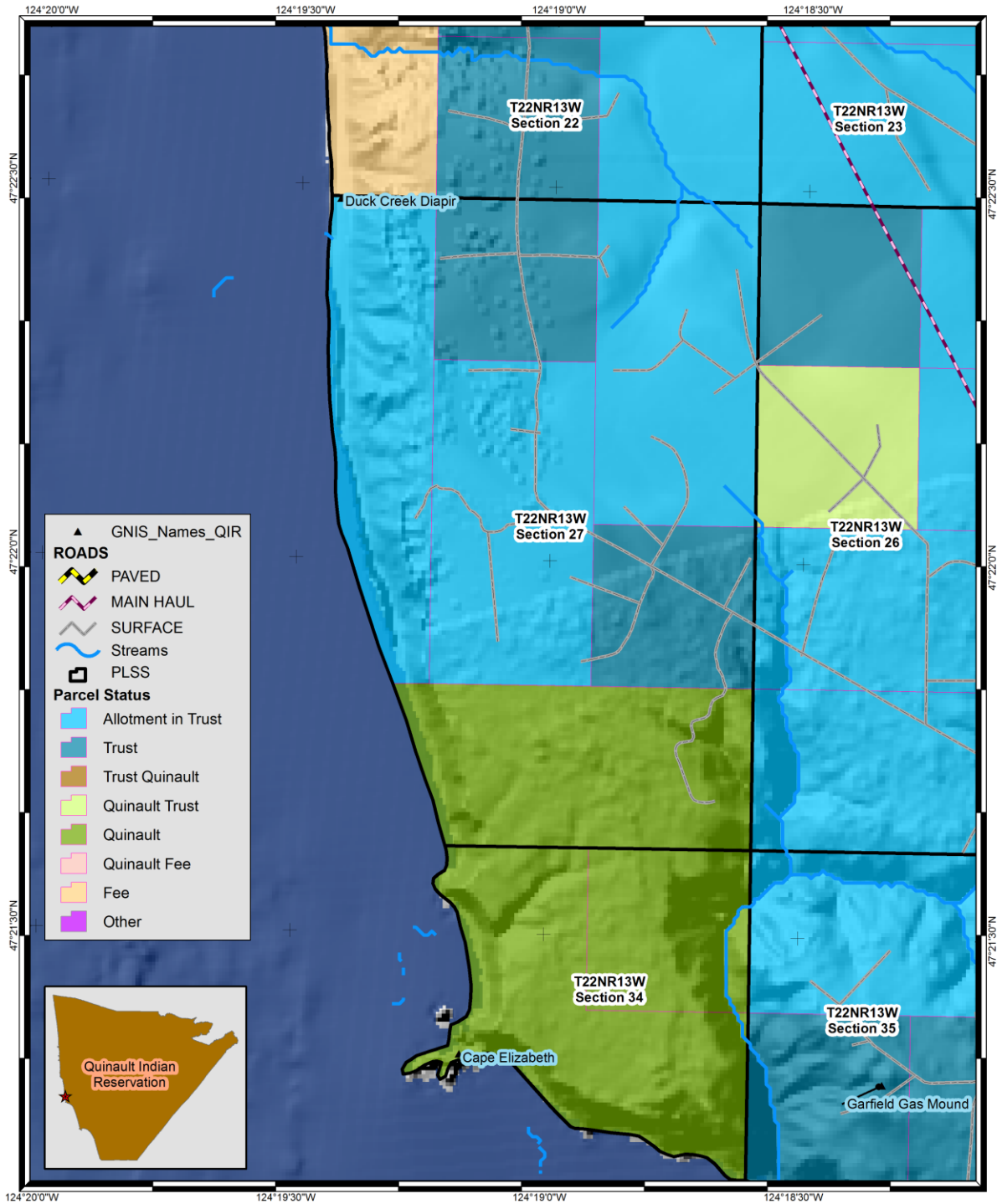
- Cover Photo: Washington State Department of Ecology
  - Coastal Atlas: <https://fortress.wa.gov/ecy/coastalatlas/>
- Property Ownership
  - Quinault GIS Department and BIA: "Allotment in Trust" status shows Trust lands with Indian Allotment Owner Names, representing Indian Owners in Undivided Interest Shares according to the most recent database release by the BIA in 1999.
- Aerial Imagery / Digital Ortho Photos
  - National Agriculture Inventory Program (NAIP): US Department of Agriculture
  - Obtained from Geospatial Data Gateway: <http://datagateway.nrcs.usda.gov/>
- Aerial Photography: 1953
  - Western United States High Altitude: Army Map Service Corps of Engineers
  - Approximate scale 1:72,700
  - Georectified by Kamiak Geospatial
  - USGS: [http://eros.usgs.gov/#/Find\\_Data/Products\\_and\\_Data\\_Available/Single\\_Frame\\_Records](http://eros.usgs.gov/#/Find_Data/Products_and_Data_Available/Single_Frame_Records)
  - <http://earthexplorer.usgs.gov/>
- Soil Data
  - Natural Resource Conservation Service Soil Survey
  - Analysis by Soil Data Viewer
- Fault Lines
  - U.S. Geological Survey (USGS) National Geologic Mapping Program
  - Washington Division of Geology and Earth Resources (DGER)
  - Washington Department of Natural Resources
  - "Quaternary fault and fold database of the United States" (USGS, 2008)
- Bedrock Outcrops
  - Washington Department of Natural Resources Division of Mines and Geology by Weldon Rau
- Offshore bathymetry
  - NOAA, US Coast Guard, US Navy
- Topography
  - LiDAR – Quinault Indian Nation via Puget Sound Lidar Consortium
  - <http://pugetsoundlidar.ess.washington.edu/lidardata/restricted/projects/2011quinault.html>



Map Projection: NAD83UTM10N  
 © 2012 Kamiak Ridge, LLC  
 1:12,000  
 0 500 1,000 1,500 2,000 Feet

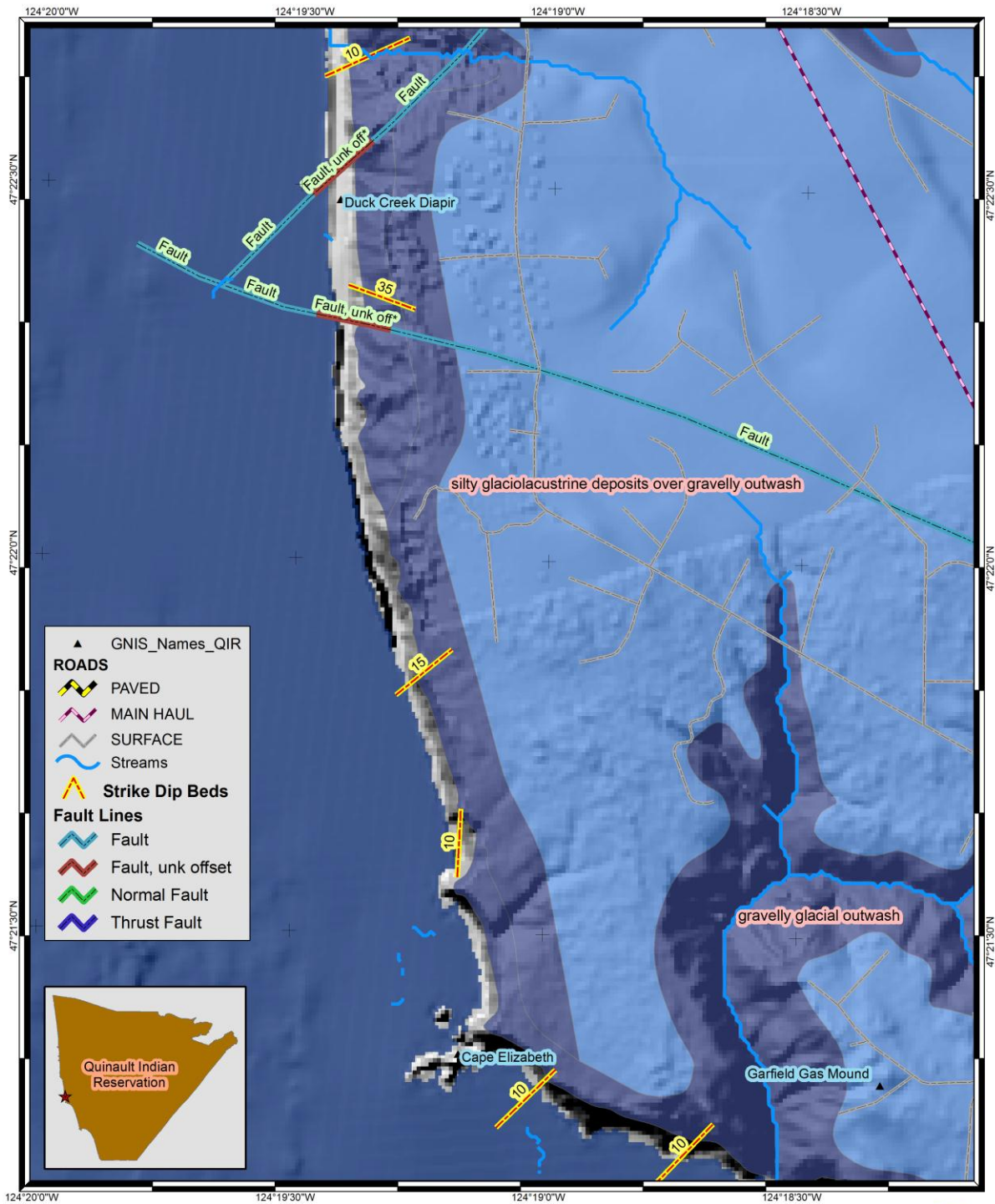
**Quinault Marine Shorelines Management Planning**  
**Cape Elizabeth to Duck Creek Diapir**  
**Topography**



Quinault Marine Shorelines  
 Management Planning  
 Cape Elizabeth to Duck Creek Diapir  
**Property Ownership Status**

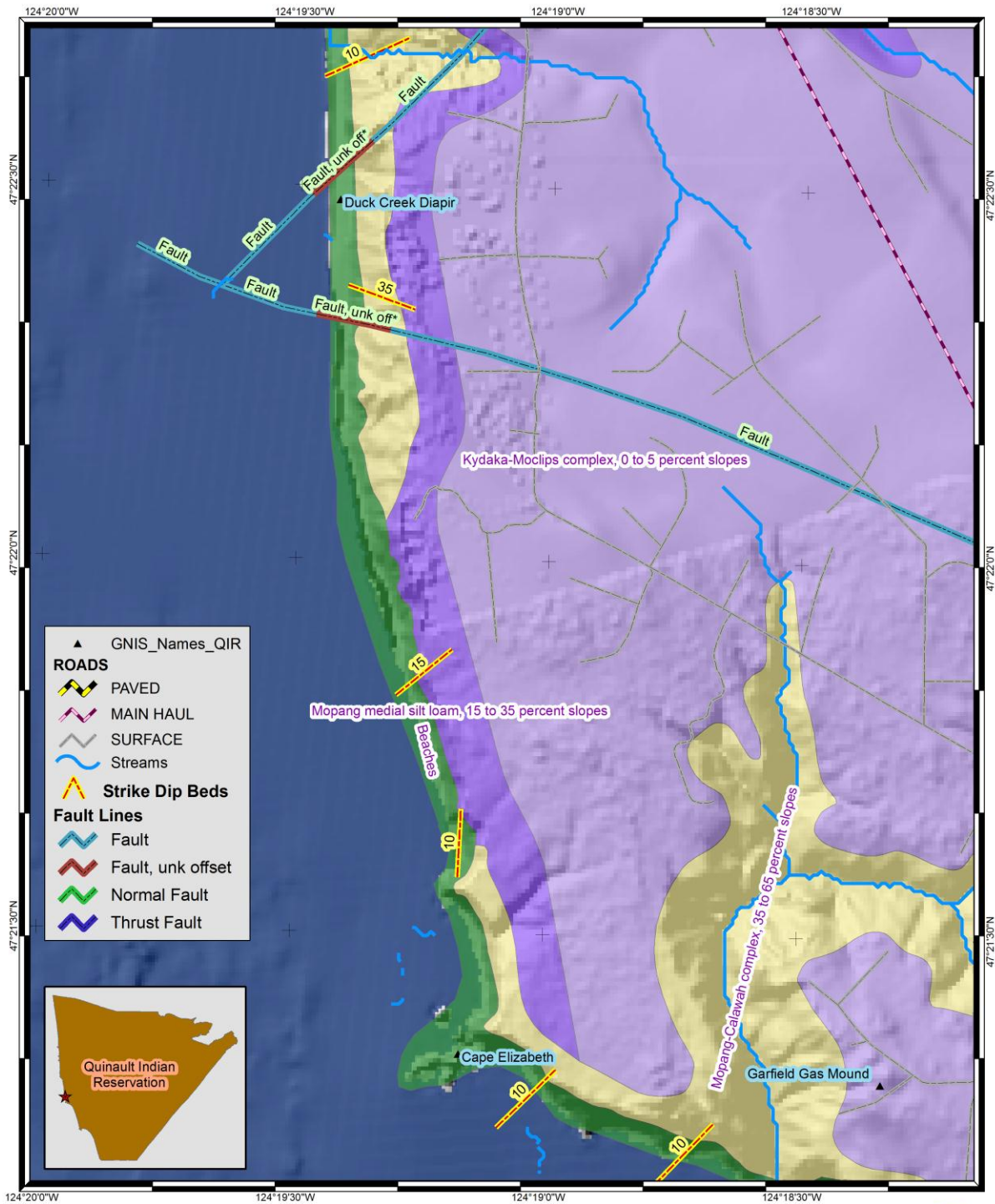




Map Projection: NAD83UTM10N  
 © 2012 Kamiak Ridge, LLC  
 1:12,000  
 0 500 1,000 1,500 2,000 Feet

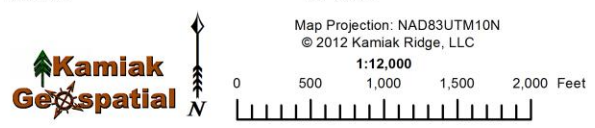
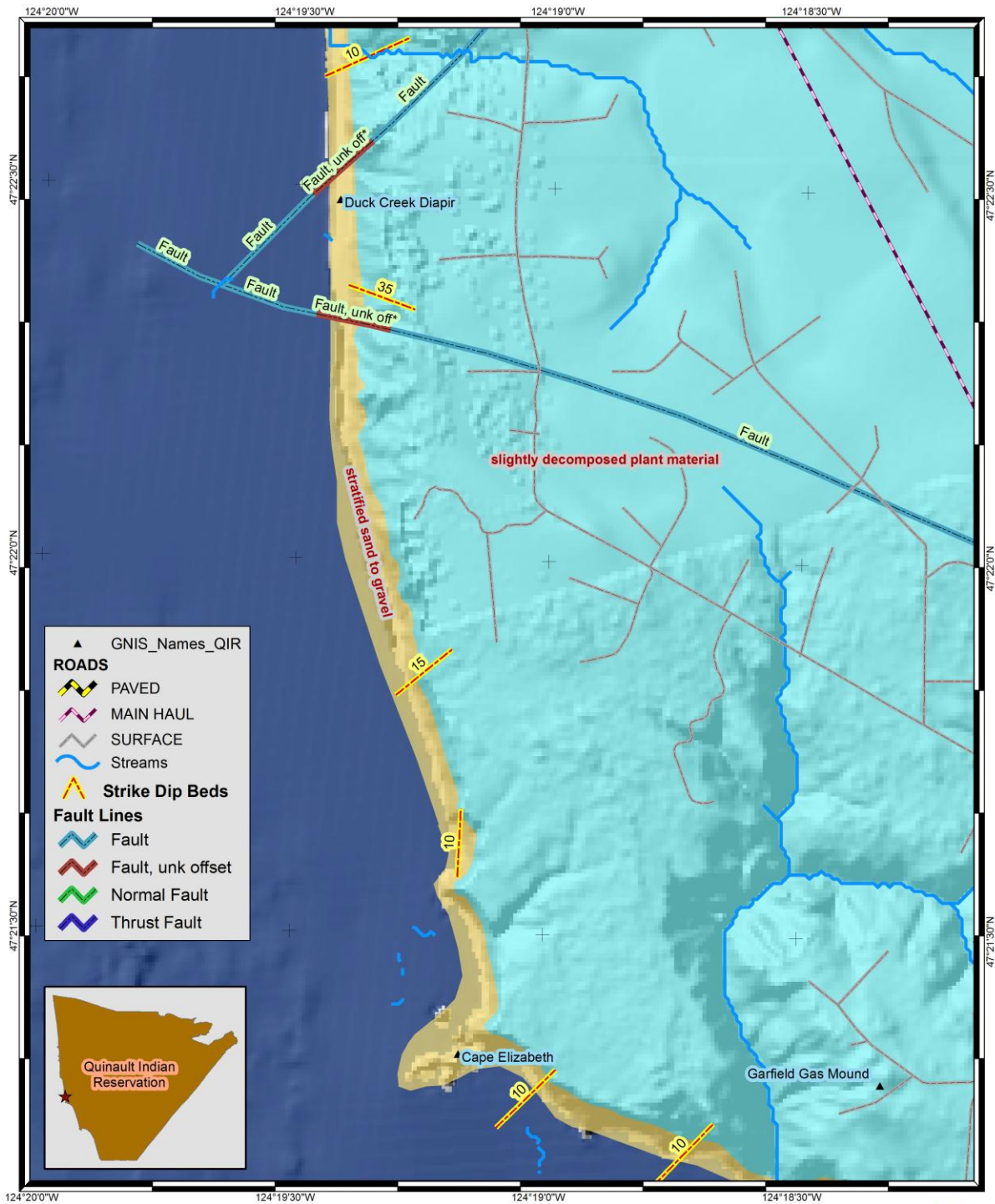
**Kamiak Geospatial**

Quinault Marine Shorelines Management Planning  
 Cape Elizabeth to Duck Creek Diapir  
 Soil Parent Materials



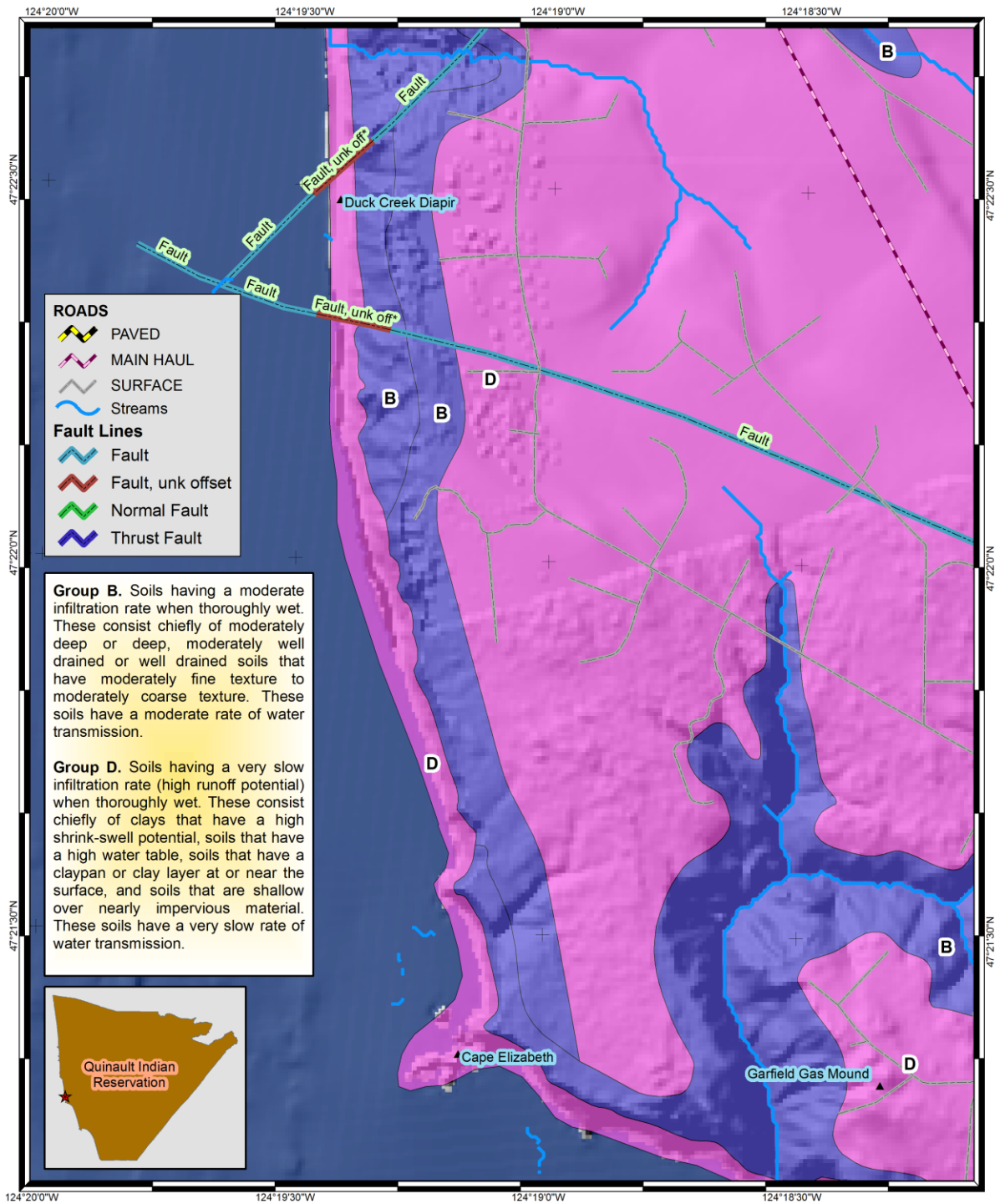
Quinault Marine Shorelines  
 Management Planning  
 Cape Elizabeth to Duck Creek Diapir  
**Soil Names**







Quinault Marine Shorelines  
 Management Planning  
 Cape Elizabeth to Duck Creek Diapir  
 Soil Surface Texture



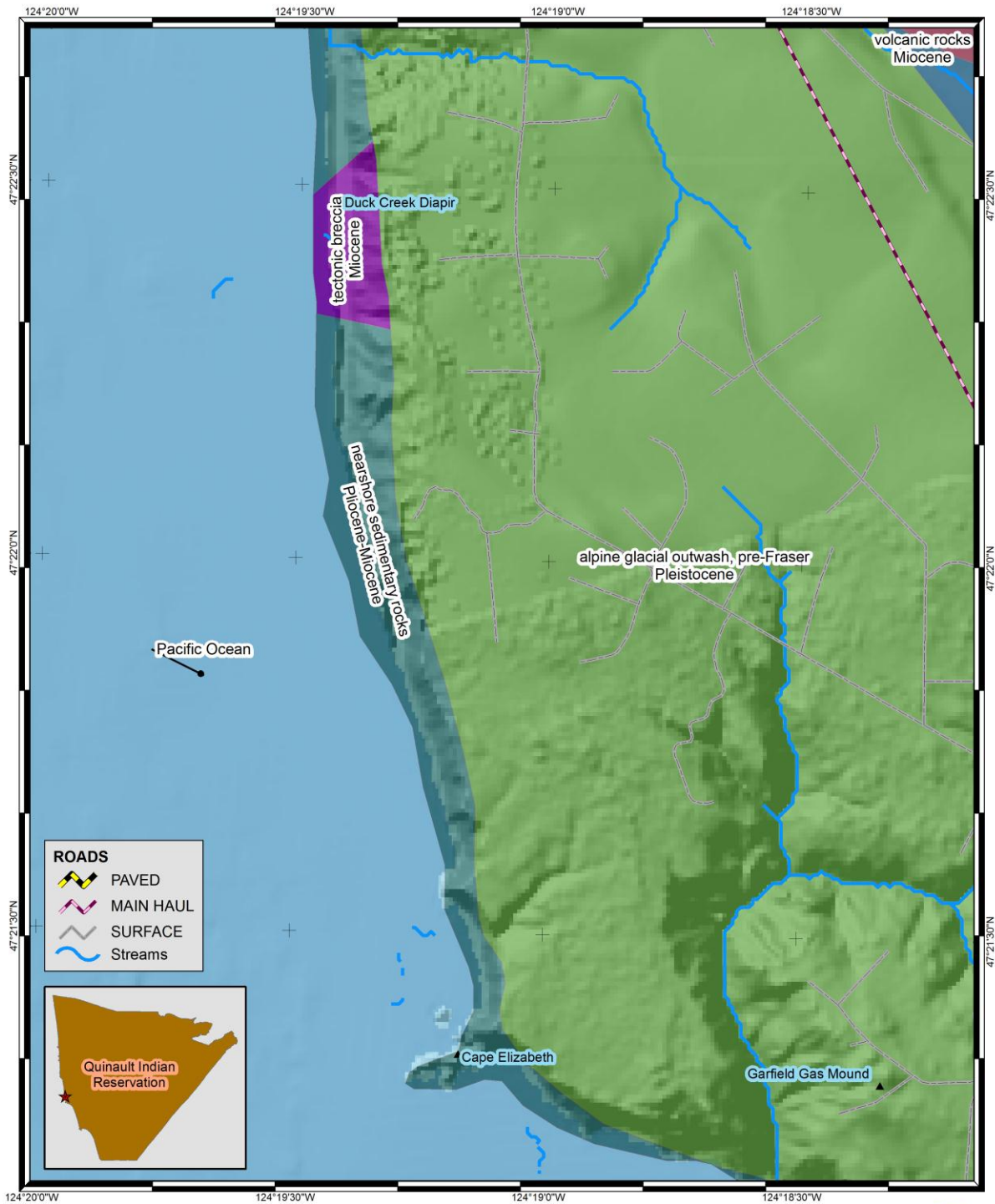


Map Projection: NAD83UTM10N  
 © 2012 Kamiak Ridge, LLC  
 1:12,000  
 0 500 1,000 1,500 2,000 Feet

**Quinault Marine Shorelines Management Planning**  
**Cape Elizabeth to Duck Creek Diapir**  
**Hydrologic Soil Groups**






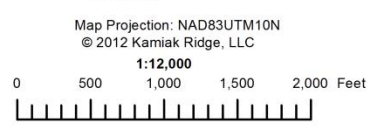
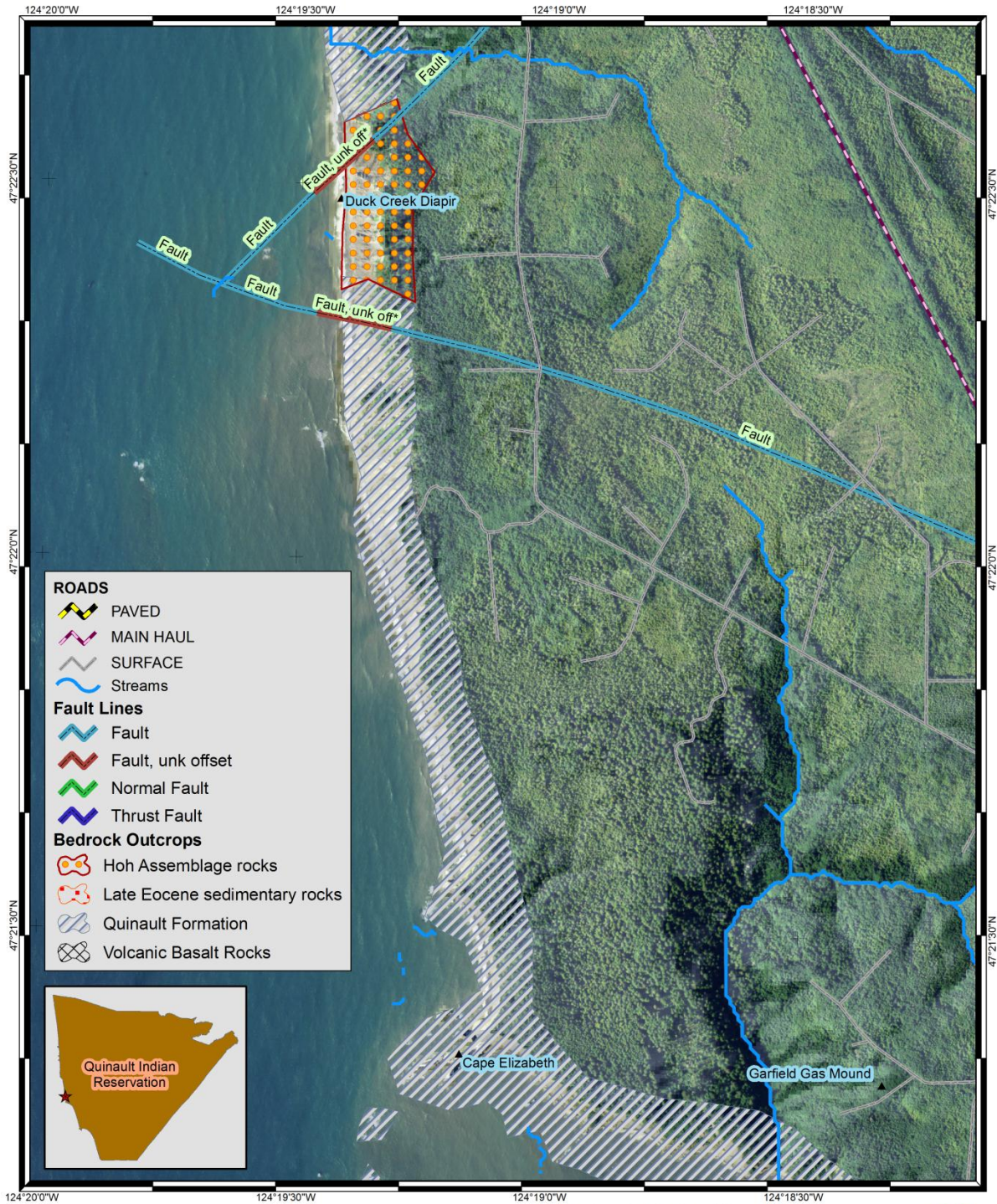




Map Projection: NAD83UTM10N  
 © 2012 Kamiak Ridge, LLC  
 1:12,000  
 0 500 1,000 1,500 2,000 Feet

**Quinault Marine Shorelines Management Planning**  
**Cape Elizabeth to Duck Creek Diapir**  
**Geologic Units**



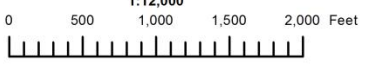
Quinault Marine Shorelines  
 Management Planning  
 Cape Elizabeth to Duck Creek Diapir  
**Bedrock Outcrops**





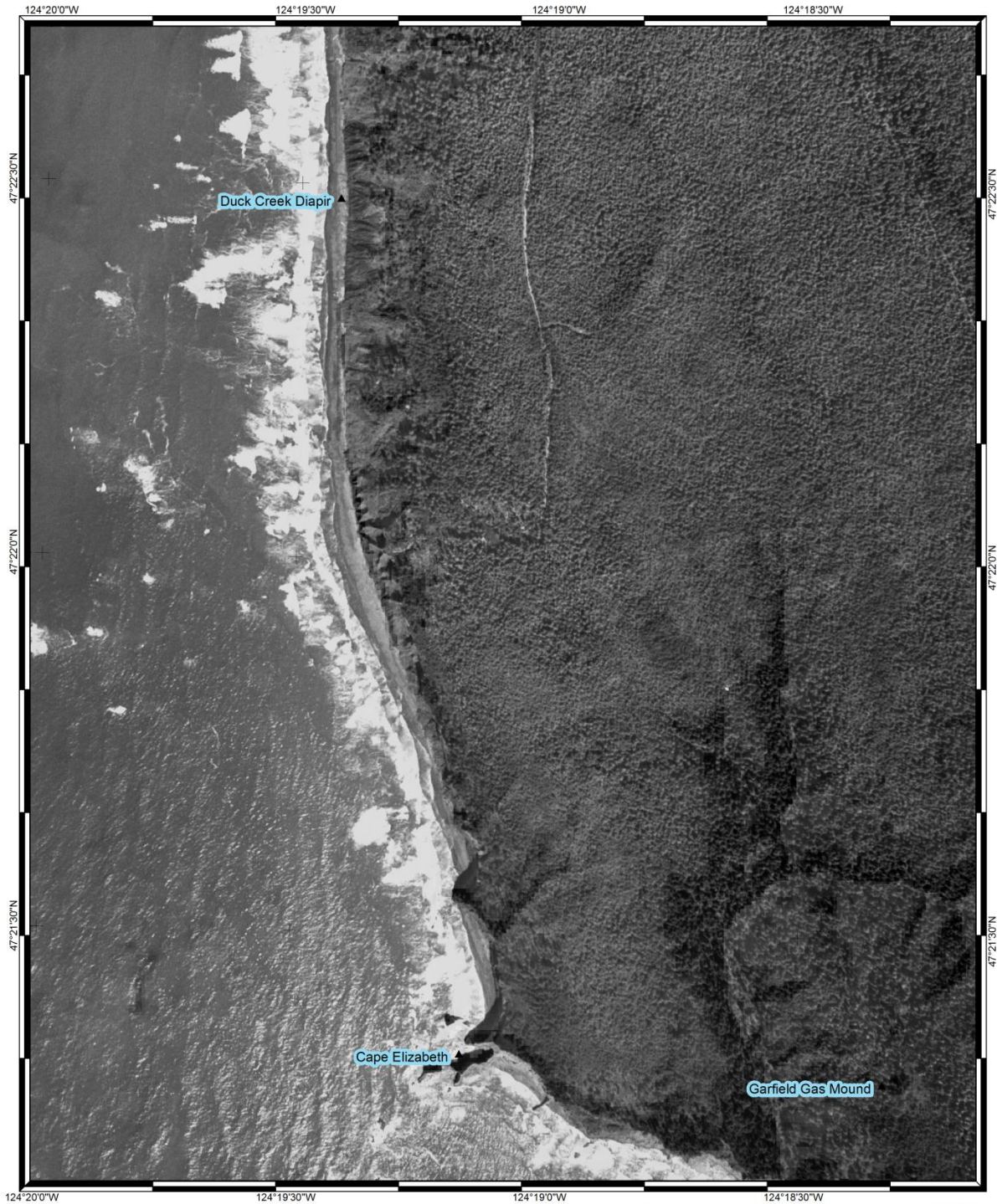
Map Projection: NAD83UTM10N  
© 2012 Kamiak Ridge, LLC

1:12,000



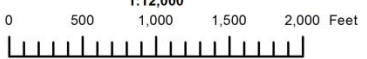
Quinault Marine Shorelines  
Management Planning  
Cape Elizabeth to Duck Creek Diapir  
Aerial Photography 1939





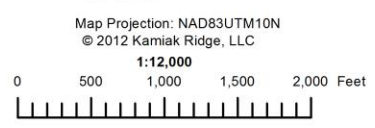
Map Projection: NAD83UTM10N  
© 2012 Kamiak Ridge, LLC

1:12,000



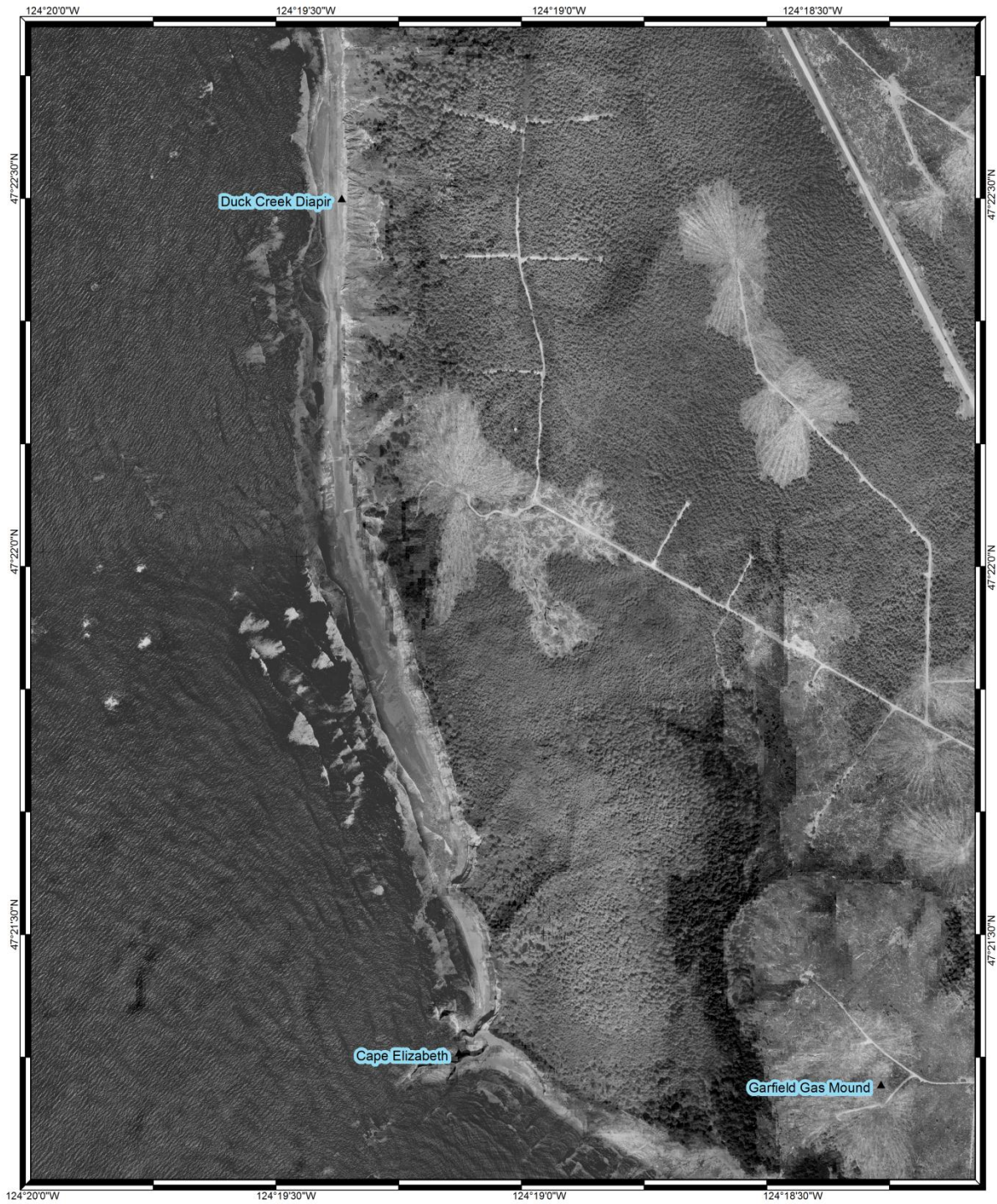
Quinault Marine Shorelines  
Management Planning  
Cape Elizabeth to Duck Creek Diapir  
Aerial Photography 1953





Quinault Marine Shorelines  
 Management Planning  
 Cape Elizabeth to Duck Creek Diapir  
 Aerial Photography 1955





Duck Creek Diapir ▲

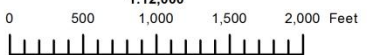
Cape Elizabeth

Garfield Gas Mound ▲



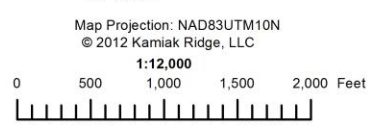
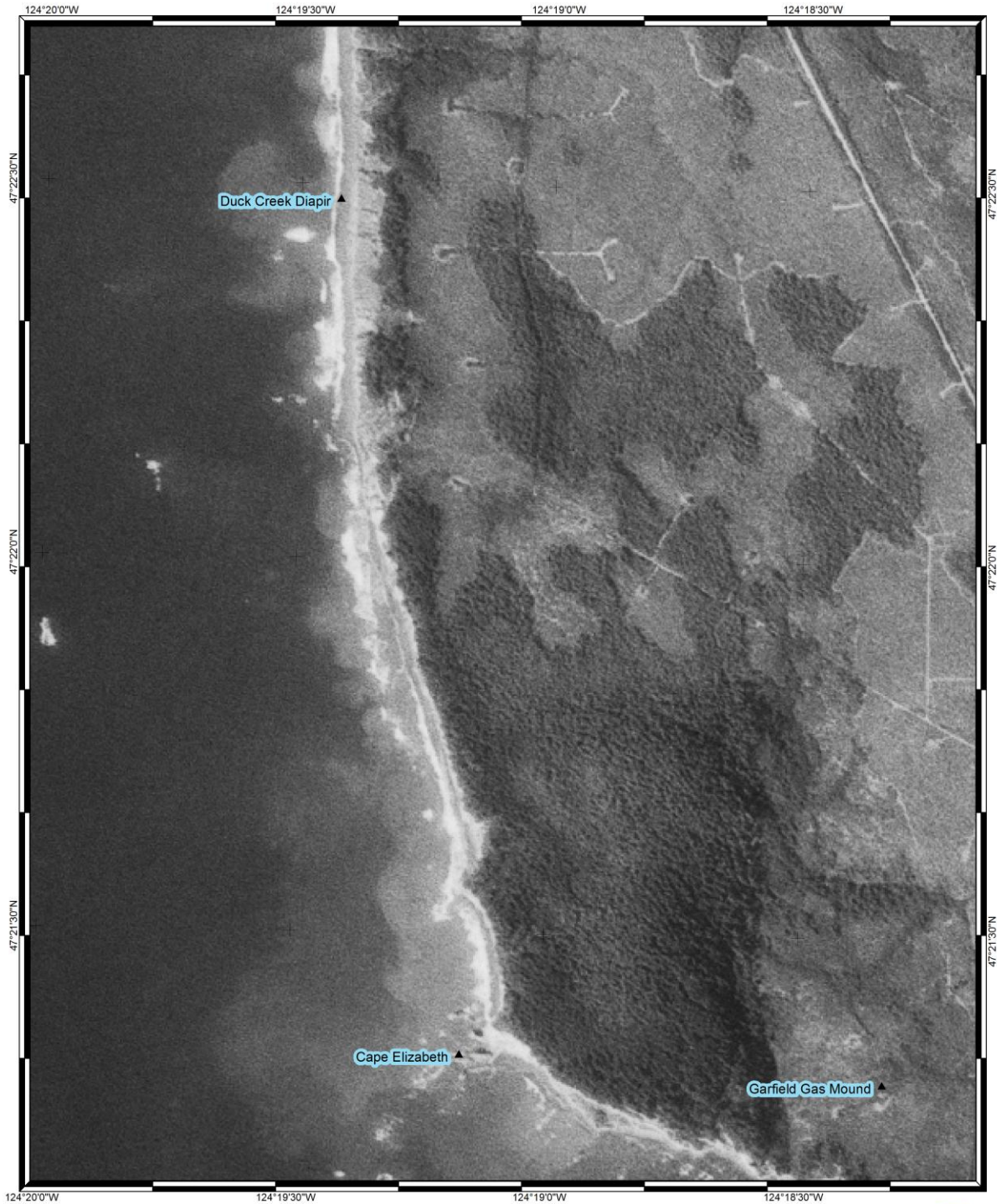
Map Projection: NAD83UTM10N  
© 2012 Kamiak Ridge, LLC

1:12,000



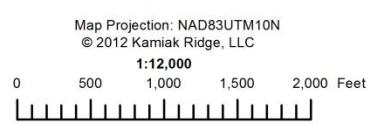
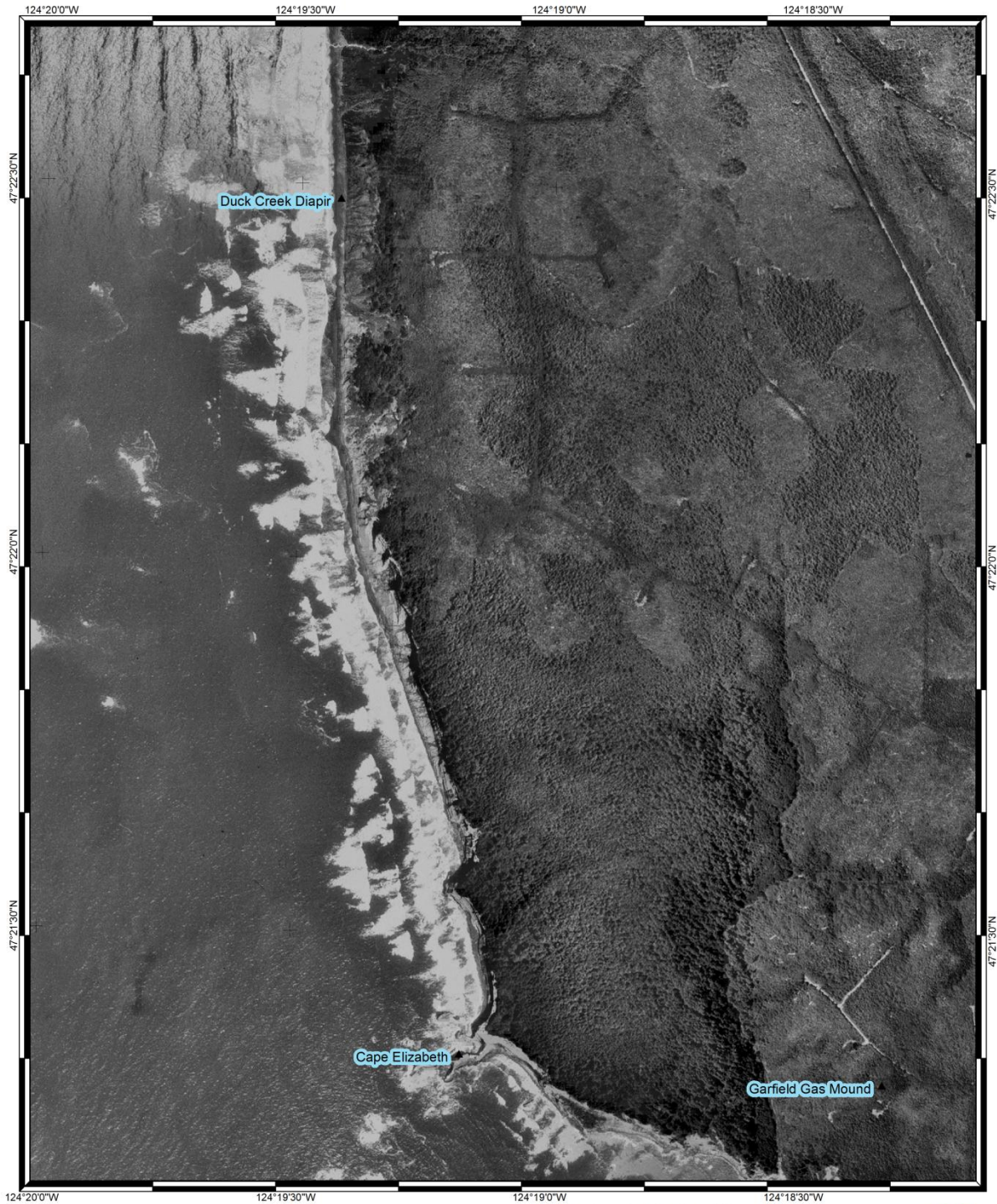
Quinalt Marine Shorelines  
Management Planning  
Cape Elizabeth to Duck Creek Diapir  
Aerial Photography 1977





Quinault Marine Shorelines  
 Management Planning  
 Cape Elizabeth to Duck Creek Diapir  
 Aerial Photography 1985

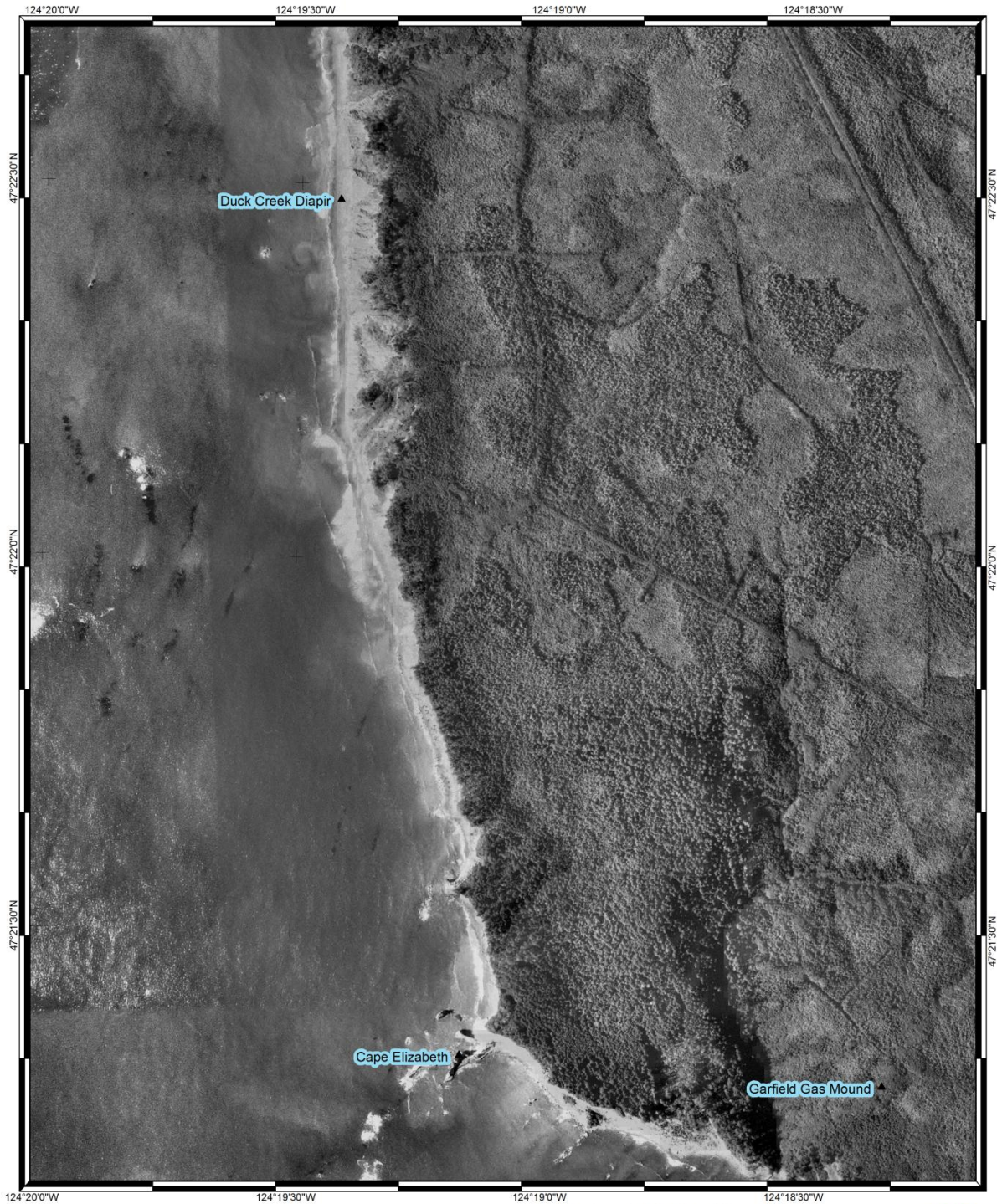





Quinault Marine Shorelines  
 Management Planning  
 Cape Elizabeth to Duck Creek Diapir  
 Aerial Photography 1994











**Kamiak  
Geospatial**

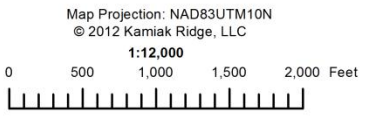
Map Projection: NAD83UTM10N  
© 2012 Kamiak Ridge, LLC  
1:12,000



0 500 1,000 1,500 2,000 Feet

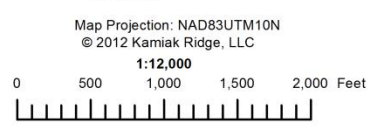
Quinault Marine Shorelines  
Management Planning  
**Cape Elizabeth to Duck Creek Diapir**  
**Aerial Photography 2000**





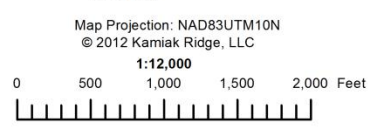
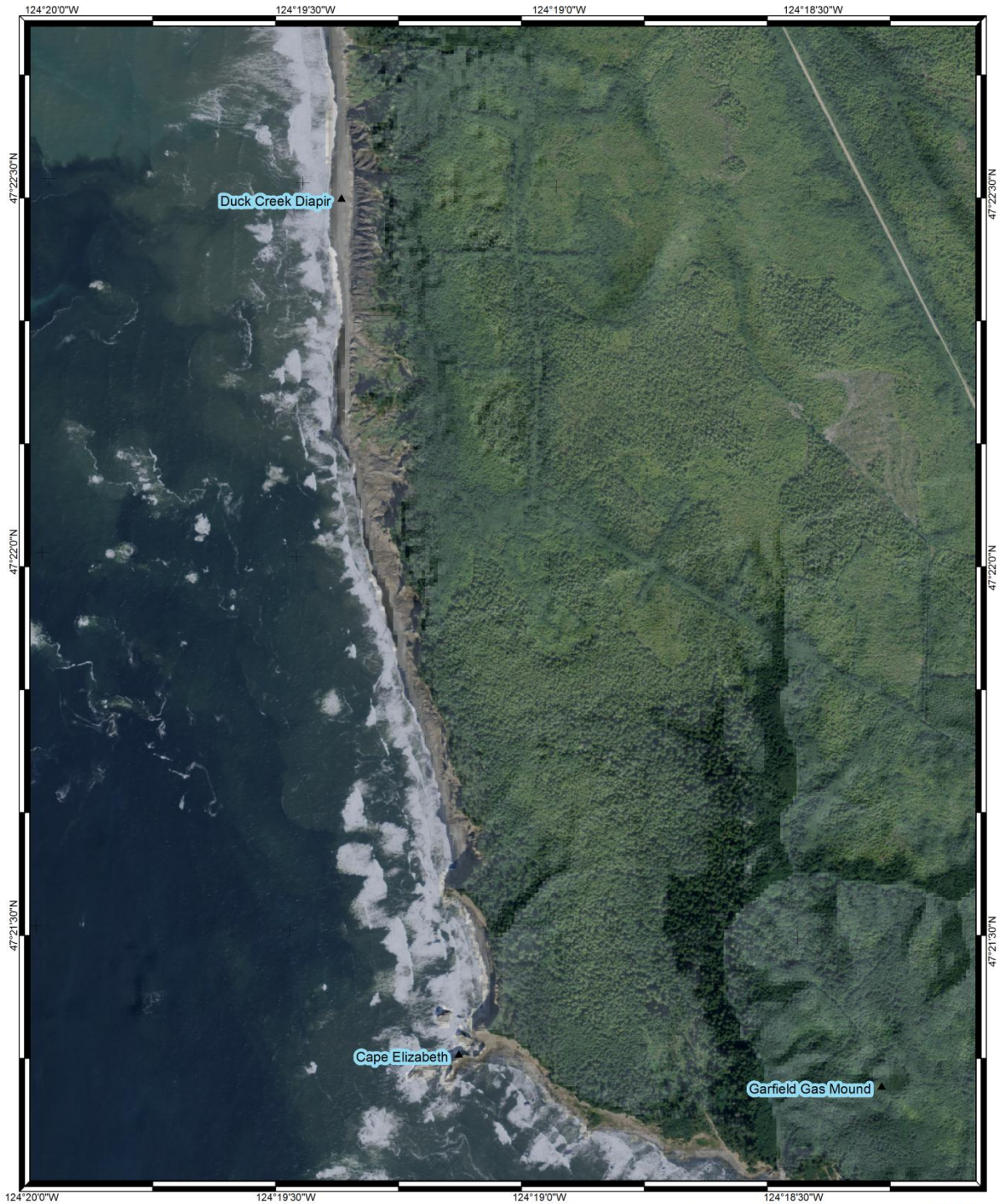
Quinault Marine Shorelines  
 Management Planning  
 Cape Elizabeth to Duck Creek Diapir  
 NAIP Aerial Imagery 2005





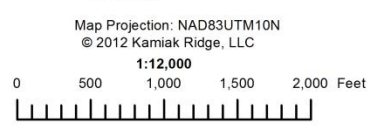
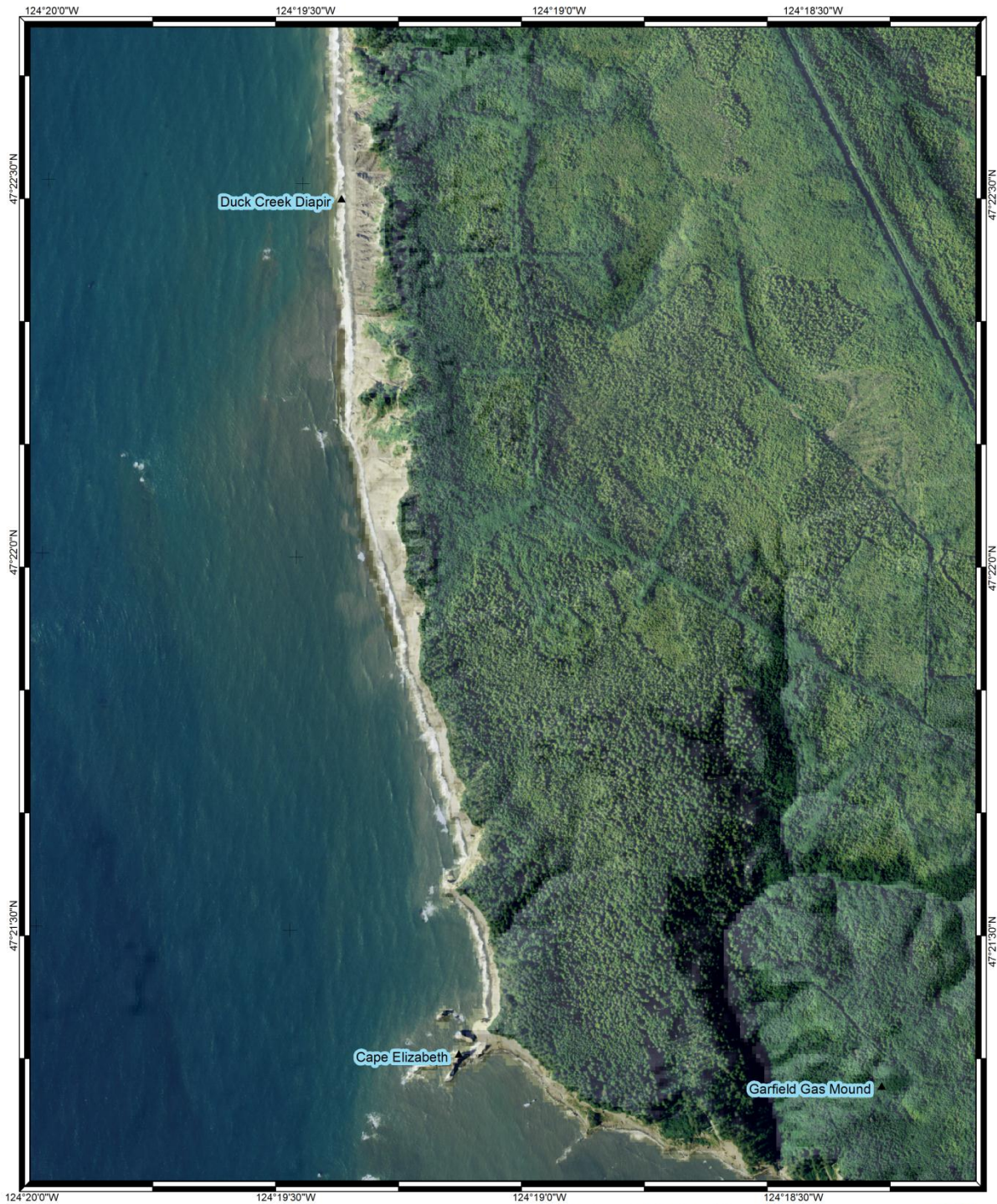
Quinault Marine Shorelines  
 Management Planning  
 Cape Elizabeth to Duck Creek Diapir  
 NAIP Aerial Imagery 2006





Quinault Marine Shorelines  
 Management Planning  
 Cape Elizabeth to Duck Creek Diapir  
 NAIP Aerial Imagery 2009





Quinault Marine Shorelines  
 Management Planning  
 Cape Elizabeth to Duck Creek Diapir  
 NAIP Aerial Imagery 2011





Map Projection: NAD83UTM10N  
 © 2012 Kamiak Ridge, LLC

1:12,000



Quinault Marine Shorelines  
 Management Planning  
 Cape Elizabeth to Duck Creek Diapir  
 BING Imagery 2012





8/19/2006 3:16 PM





8/19/2006 3:16 PM



8/19/2006 3:16 PM



8/19/2006 3:16 PM



8/19/2006 3:16 PM



8/19/2006 3:16 PM



8/19/2006 3:16 PM



8/19/2006 3:16 PM



8/19/2006 3:16 PM





**Citation of this work:**

Schlosser, W.E. 2013. CAPE ELIZABETH REACH ASSESSMENT MAPS and PHOTOS. Kamiak Ridge, LLC, Pullman, WA, January 23, 2013. Pp 31.

---

**Last Page of Report  
Remainder Intentionally Left Blank**