

## ***EVOSTC ANNUAL PROJECT REPORT***

***Project Number:*** ..... 080805  
***Project Title:*** ..... *ShoreZone Mapping for Prince William Sound*  
***PI Name:***..... *Mandy Lindeberg*  
***Time period covered:*** ..... *FY08: Nov. 14, 2007 - Sept. 1, 2008*  
***Date of Report:***..... *Sept. 1, 2008*  
***Report prepared by:*** ..... *Mandy Lindeberg*

### **Work Performed:**

The first phase of ShoreZone mapping in Prince William Sound (PWS) was completed in FY07. Helicopter surveys acquired 80 hours of video and over 25,000 high resolution still photos from 4,000 km of shoreline. Contributions by several funding agencies enabled image collection throughout the Sound and adjacent regions: 1,543 km of western PWS (RCAC), 4,000 of the Sound (EVOS), and 1,258 km of the Copper River Delta (RCAC) (Figure 1). The flight report and georeferenced imagery is now available to the public at NOAA Fisheries Alaska Regional Office website: <http://www.alaskafisheries.noaa.gov/maps/szintro.htm>. Upgrades to this website include a newly designed home page, access to all flight logs and summary reports in pdf format, and new GIS tools to access habitat information and download shape files.

Mapping of the 4,000 km imagery collected in Prince William Sound in 2007 is currently underway. Physical (geomorphic) mapping is complete for 3,471 km of shoreline (Figures 2 through 4) and biological mapping is complete for 1,222 km of shoreline (Figures 5 and 6). Figures 3, 4, and 6 illustrate some of the coastal attributes that can be mapped using the ShoreZone system.

### **Future Work:**

The mapping phase of PWS ShoreZone is currently ongoing and on schedule. A data summary report for the 4,000 km of shoreline in Prince William Sound will be complete by April 2009. The database will then be handed over to the NOAA Fisheries Regional Office for posting on the public website.

### **Coordination/Collaboration:**

There has already been a great deal of interest by various groups to acquire some of the PWS ShoreZone products for business, research, and management needs. The following list shows the variety of special requests so far: USGS - Alaska Science Center, NPS - Southwest Alaska Park Network, National Forest Service - Chugach National Forest, PWS Science Center, Chilkat Environmental, and Nancy Lethcoe - author of Cruising Guide to PWS.

### **Community Involvement/TEK & Resource Management Applications:**

Several outreach opportunities have taken place in FY07. During the field effort members of the CORI team met with local leaders such as the village chief of Tatitlek, the PWS Science Center director, ADF&G staff, and PWS hatchery staff to explain how ShoreZone works and share imagery. J. Harney of CORI also wrote an article for the Cordova Times informing the public about the PWS ShoreZone project which was published on May 24, 2007.

A rewarding collaboration took place January 18, 2008 with the PWS Science Center and Alaska Sea Grant. M. Lindeberg and J. Harney traveled to Cordova and presented talks and entertained Q & A from the public on PWS ShoreZone as part of Sea Grant's Community Education Program. The evening was well attended and folks remained afterword to view more imagery of the Sound. We also donated framed aerial photographs of PWS hatcheries, Cordova, and the village of Tatitlek. These local groups were pivotal partners during the logistically challenging needs of the helicopter surveys.

#### **Information Transfer:**

This is the middle of a second year project so no reports or publications have been drafted or released. The principle investigator and CORI staff attended the 2008 Alaska Marine Science Symposium and presented posters:

Harney, J.N., M.R.Lindeberg, M. Morris, and J. Harper. The ShoreZone Coastal Habitat Mapping Program in Prince William Sound. 2008. Alaska Marine Science Symposium, Anchorage, AK, Jan 2008.

Morris, M. J.N. Harney, J. Harper, C. Hartman, K Koski, M. Lindeberg, and S. Saupe. 2008. Update on ShoreZone Mapping in Alaska, British Columbia, and Washington. Alaska Marine Science Symposium, Anchorage, AK, Jan 2008.

M. Lindeberg and J. Harney also presented ShoreZone talks at the AOOS workshop held during the 2008 Alaska Marine Science Symposium.

#### **Budget:**

Currently there are no major budget issues for this project in its second year.

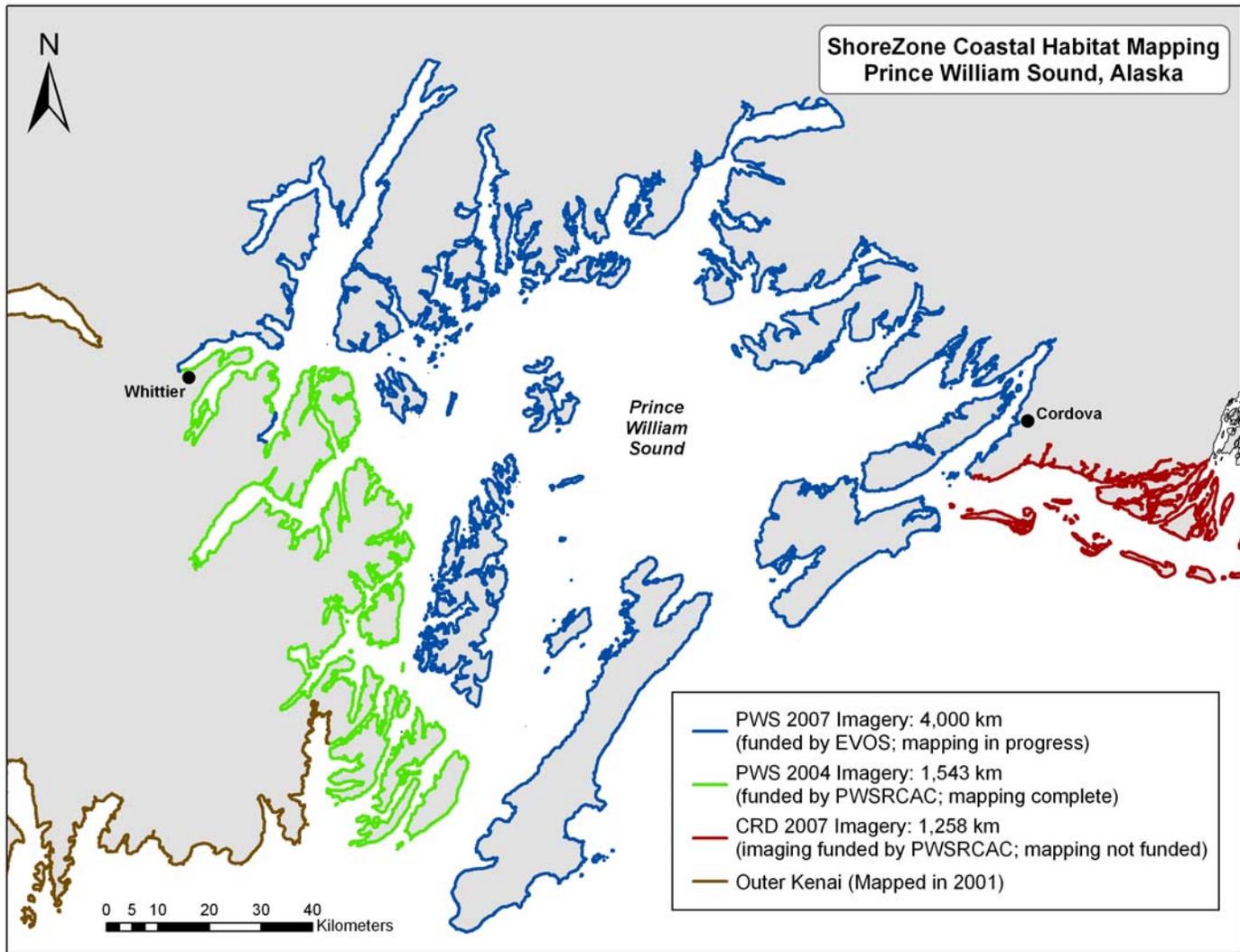


Figure 1. Summary of ShoreZone coastal habitat mapping program in Prince William Sound, Alaska.

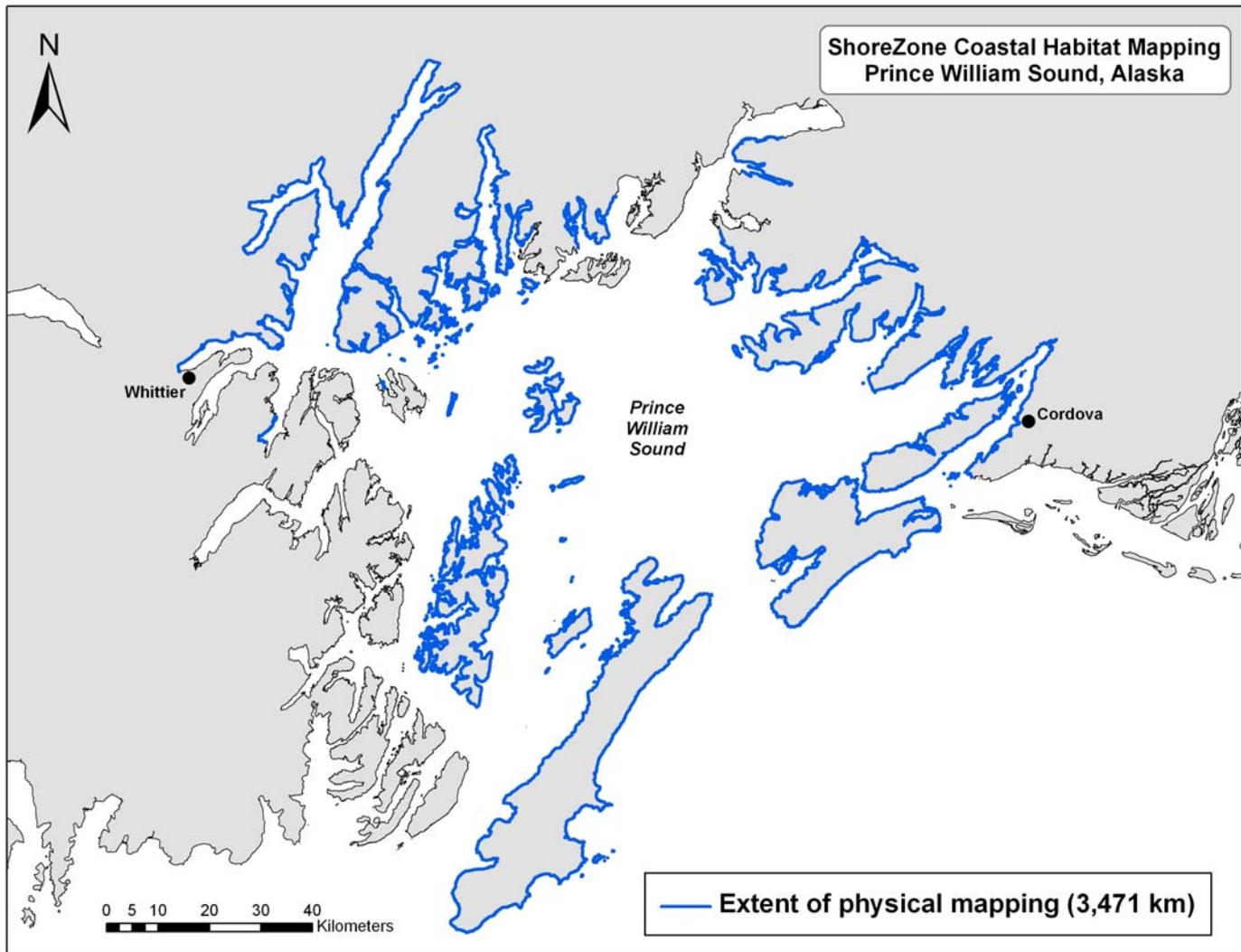


Figure 2. Extent of ShoreZone physical mapping in Prince William Sound as of August 2008 (3,471 km).

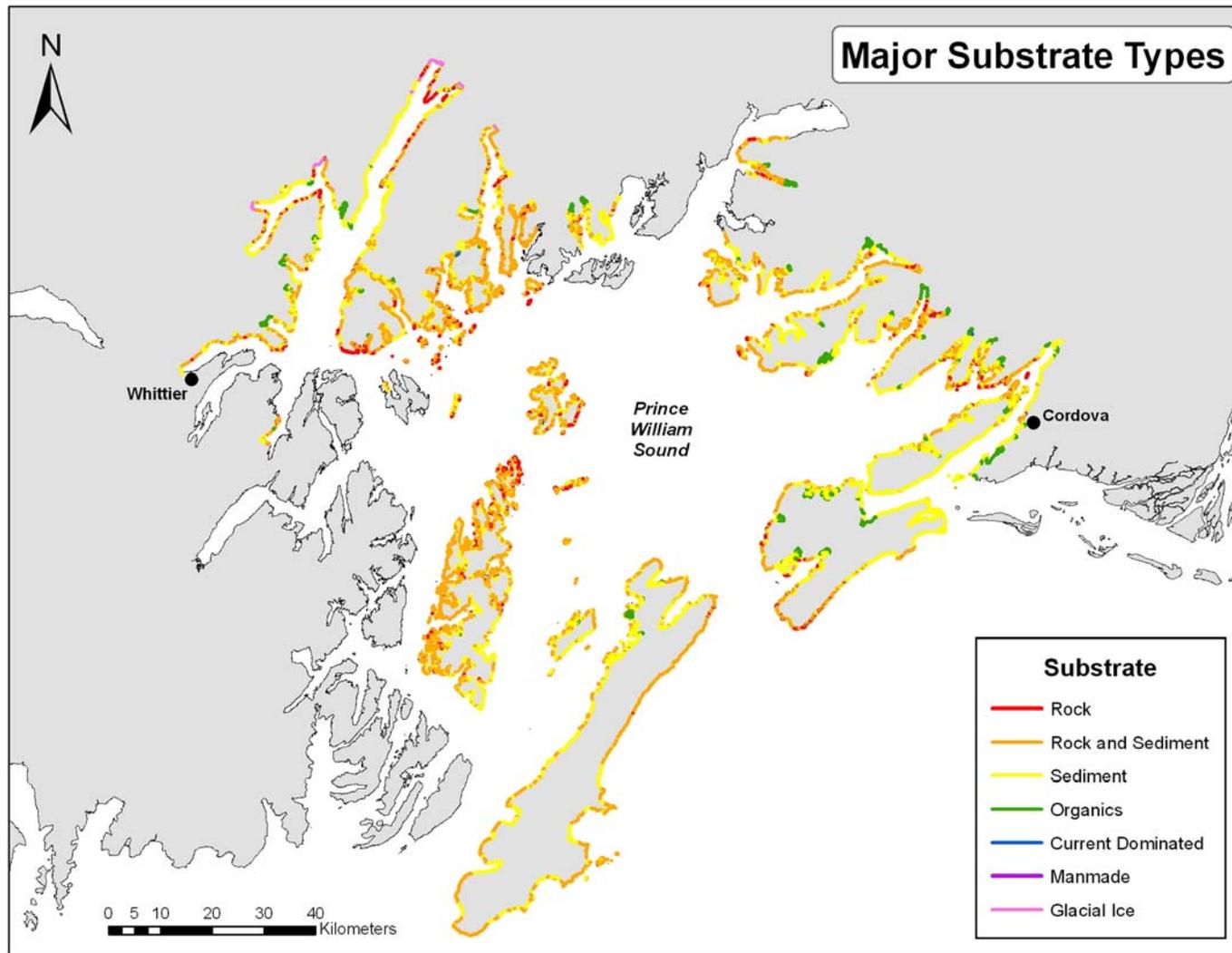


Figure 3. Principal substrate types in mapped areas of Prince William Sound (3,471 km). Substrate classes reflect the shore type assigned to each along-shore unit (see definitions table A-2 in ShoreZone Coastal Habitat Mapping Protocol).

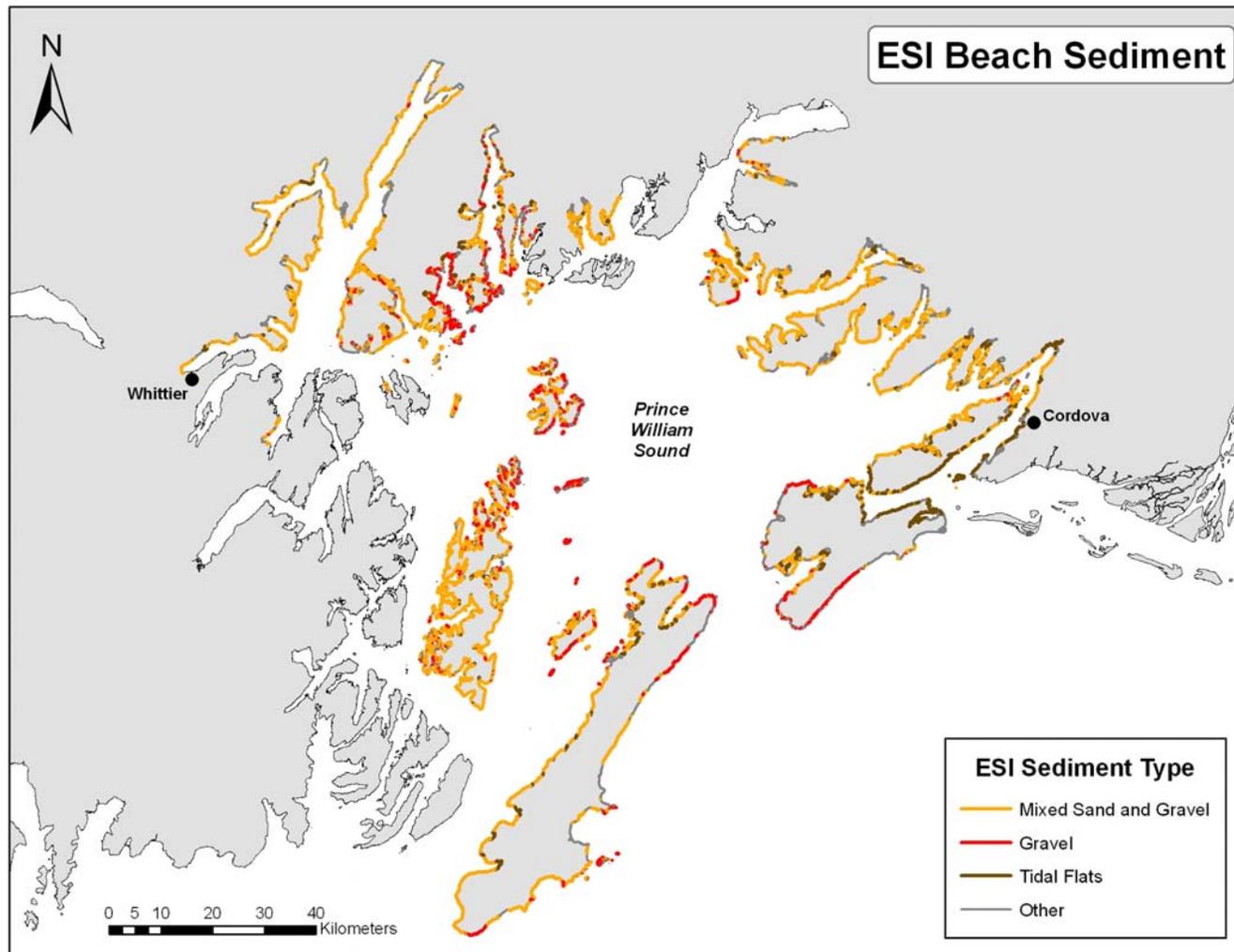


Figure 4. Distribution of beaches in mapped areas of Prince William Sound (3,471 km) on the basis of ESI class. Mixed sand and gravel beaches refer to ESI classes 4 and 5; gravel beaches refer to ESI classes 6A and 6B. Tidal flats (ESI class 9A) are >30 m wide and may contain organic material and a range of sediment sizes). See definitions table A-3 in ShoreZone Coastal Habitat Mapping Protocol.

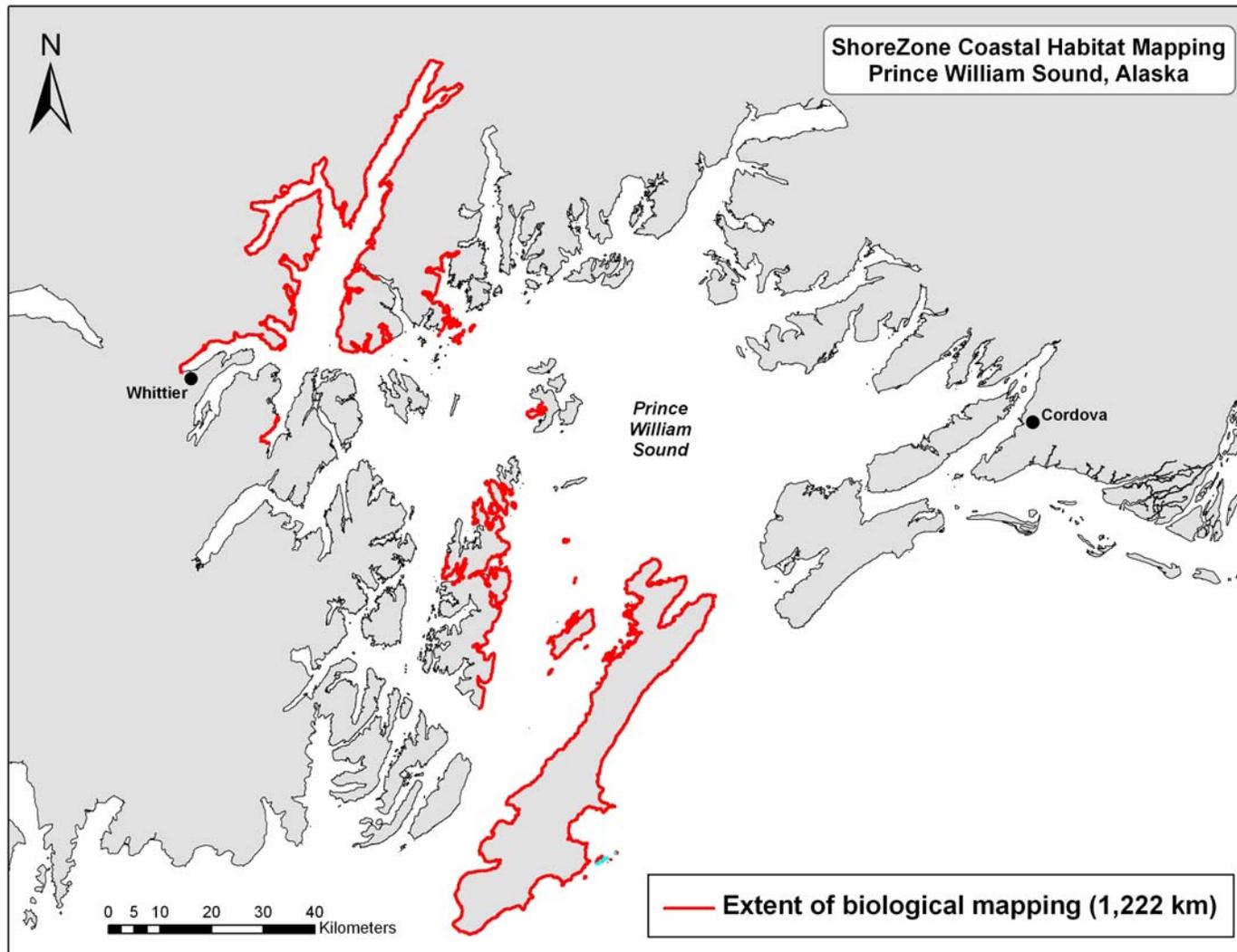


Figure 5. Extent of ShoreZone biological mapping in Prince William Sound as of August 2008 (1,222 km).

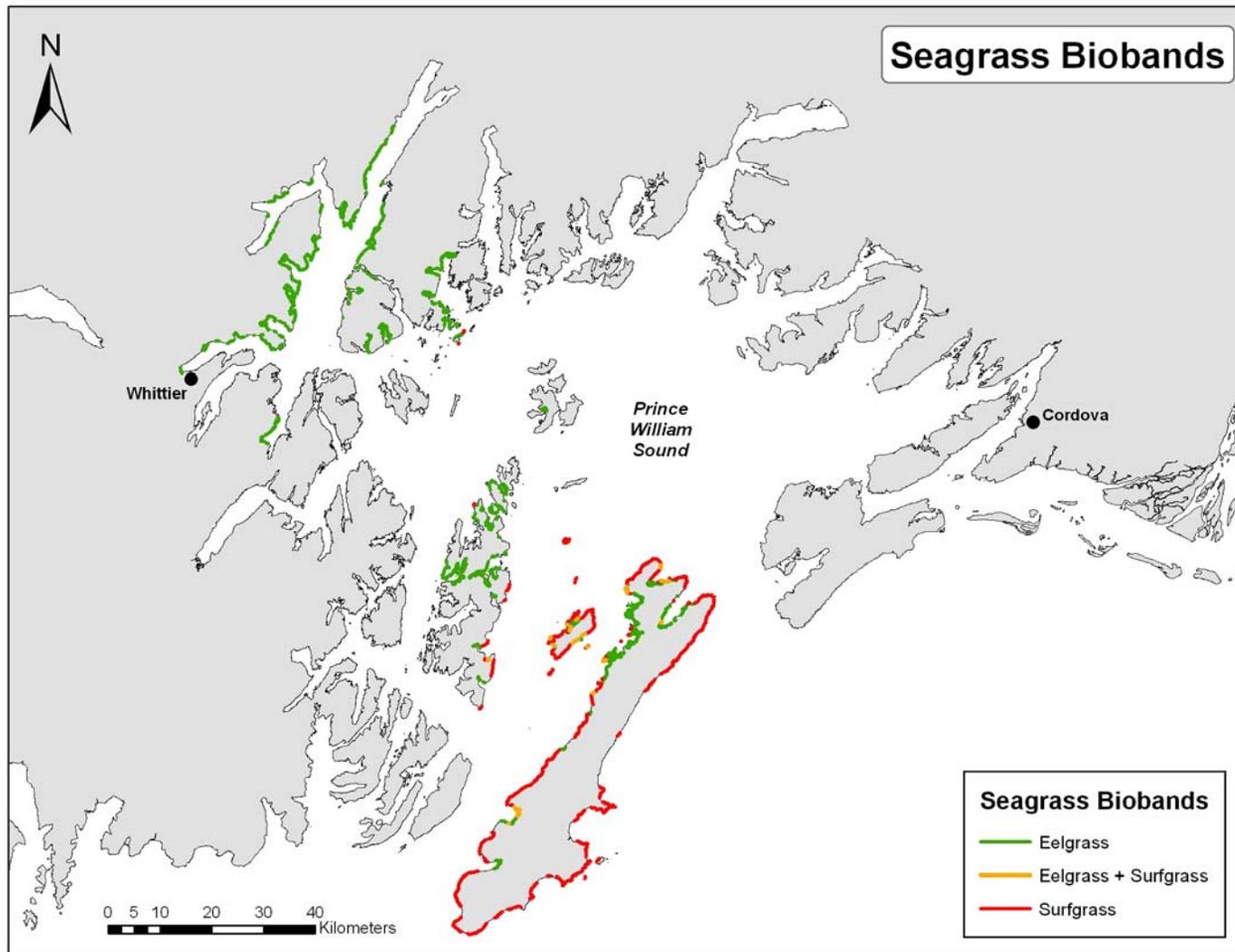


Figure 6. Distribution of observed eelgrass and surfgrass biobands in mapped areas of Prince William Sound. Of the shoreline in the study area with complete biological mapping (1,222 km), eelgrass is observed along 457 km, surfgrass is observed along 205 km, and both types of grasses are observed together along 13 km.