Alaska ShoreZone: A Coastal Habitat Mapping Program

Auke Bay Laboratories
Alaska Fisheries Science Center

Mandy Lindeberg
Coastal Habitat Mapping:

Digitizing

Spacially Explicit

Regional Quantification

Aerial Image

Segmenting Shoreline

Biophysical attributes mapped in across-shore units

Digital Shoreline

Geomorphology

Biobands

Spatial quantification of biophysical attributes

Physical features mapped in across-shore units

Biological Features mapped in across-shore units

Imagery as Data
Why ShoreZone?

Originally developed for oil spill planning and response
Why Alaska? A History of Human Impacts to Coastal Areas

- *Exxon Valdez* oil spill 1989
- *Selendang Ayu* break up 2004
- Drill Rig *Kulluk* 2013
- USCG: July – Sept. 2015 = 16 F/V groundings

F/V Savannah-Ray, Kodiak March 2015
Why Alaska Now? Coastal Issues & Increased Risk

- Climate change
- Loss of sea ice
- Coastal erosion
- Increased vessel traffic
- Subsistence needs
- Resource development
- Coastal development
Alaska ShoreZone Program:

A partnership of many agencies and NGOs collaborating on various phases of ShoreZone:

In kind We Trust
AK ShoreZone Org Chart

ShoreZone Program

Steering Committee
- Outreach/Education

Coordinator
- Partners

Survey/Mapping
- Data Management
  - Data Accessibility
Alaska ShoreZone Coordinator:

- ShoreZone Partnership Coordinator
  - Facilitates steering committee, partners
  - Proposals, funding, contracts, surveys
  - Communication, education
  - Special projects

Thank You Kelly Ingram!
ShoreZone Steering Committee

- **Prioritize activities of program**
- **Search for funding and partners**
- **Develop new products**
- **Communicate program activities**

**STEERING COMMITTEE MEMBERS (ad hoc, not formalized)**

- Kelly Ingram: TNC – SZ coordinator
- Catherine Coon: BOEM
- John Harper: MER (on retainer)
- Tahzay Jones: NPS
- Cindy Hartmann-Moore: NMFS, AK Regional Office
- Amy Holman: NOAA
- Steve Lewis: NMFS, AK Regional Office
- Mandy Lindeberg: NMFS, Auke Bay Labs
- Mary Morris: Archipelago Marine Research
- Susan Sauge: Cook Inlet RCAC
- Tim Robertson: Nuka Research
- Carl Schoch: Coastal & Oceans Resources
ShoreZone Partners

- NMFS AK Region
- NMFS Auke Bay Labs
- NOAA NOS
- NOAA AK Region Collaboration Team
- US DOI FWS Yukon Delta
- US DOI FWS NWR
- US FWS ALCC
- US FWS WALCC
- US DOI NPS
- US DOI BOEM
- US DOI BSEE
- PWS RCAC
- CI RCAC
- TNC
- UAF GINA

…. and many more!
ShoreZone Online Services

NOAA website:
- Web enabled GIS
- YouTube streaming video
- Download video clips
- Download shapefiles, xshore
- Fish Atlas and Shore Station overlay

ShoreZone.org
- All things ShoreZone
- West Coast ShoreZone
- Online web enabled GIS for AK, WA, OR, ... BC, CA?
ShoreZone Online Desktop:

Imagery and Data Extraction:
- GIS view extent

Map Panel:
- Dynamic tracking of imagery, shoreline attributes layer

Full Motion Video Panel

High resolution still images

Single Unit Panel:
- Quick shore unit attribute summary

Expandable Layer Legend Panel:
- Map 160+ attribute layers

Unit Attributes Panel:
- Complete listing of unit attributes
ShoreZone Outreach

- Social Media
  - Twitter
  - Facebook
- ShoreZone.org
- Webinars
- Coastal Impressions
- Community outreach
ShoreZone Users – many we didn’t anticipate!

Random List that came across my desk in the last year:

- Rome Italy – Iberpress photo news agency
- Univ. Algarve Portugal – Global distribution of Giant Kelp
- Geoduck documentary – Story House Productions, Wash. D.C.
- Rpt to EVOSTC – lingering oil and Restoration Assessment
- NMFS highlight article – Art Meets Science on the AK Coastline
- NOAA Under Secretary – Request for coastal erosion slides
- NOAA Climate Tool Kit – ShoreZone added, press release POTUS
ShoreZone: wish list

- Aleutians, omg!
- More tools
- More Impressions

More of Everything!