Analytical Database Products

Steve G. Lewis

NOAA Fisheries
Alaska Region
Analytical Team

Oct 15, 2007

Databases

- VMS Enabled Catch-In-Areas Database
  - By Statistical Area
  - By Closure Area (shapefile)

- Extrapolated Observer data –
  - Pollock Atka mackeral, P.cod, 1991-2005

- Extrapolated Observer data by 154 SSL sites

- Catch-By-Vessel database: 1995- 2002

- Visualizing the data

VMS Enabled Catch-In-Areas

- VMS Enabled Catch-In-Areas Database
- Replaces Catch-By-Vessel
  - By Statistical Area
    - State Statistical Area ~30nm
    - 20Kilometer Statistical Area
    - 10Kilometer Statistical Area

  - Closure Area
    - Transfers the Attributes of a shapefile to a the TXN data. Critical Habitat: 0-3   3-10   10-20   Forage   other_RPA

Constructing VMS Enabled CIA

- Catch Accounting is out base data
  - Examples of data available:::
    - Date
    - Target
    - Gear
    - Vessel and Processor ID
    - Species Caught
    - Program Code
    - Amount Caught
    - NMFS Reporting Area
  - The data stays the same, it is only split into smaller areas.

Constructing VMS Enabled CIA

Uses VMS and Observer data to apportion to Catch Accounting

- Step 1
  - Locks onto VMS records by vessel ID where the Date/Time from Obs data records match.

- Step 2
  - VMS records by Vessel Speed
    - > 1 knot and < 5 knots for Trawl
    - > 1 knot and < 4 knot HAL/POT/JIG

- Step 3
  - Uses Observer Data Deploy and Retrieve Points and Average Vessels from Step 1 to apportion catch

- Step 4
  - Uses Average Vessel based on VMS by Obs time stamps

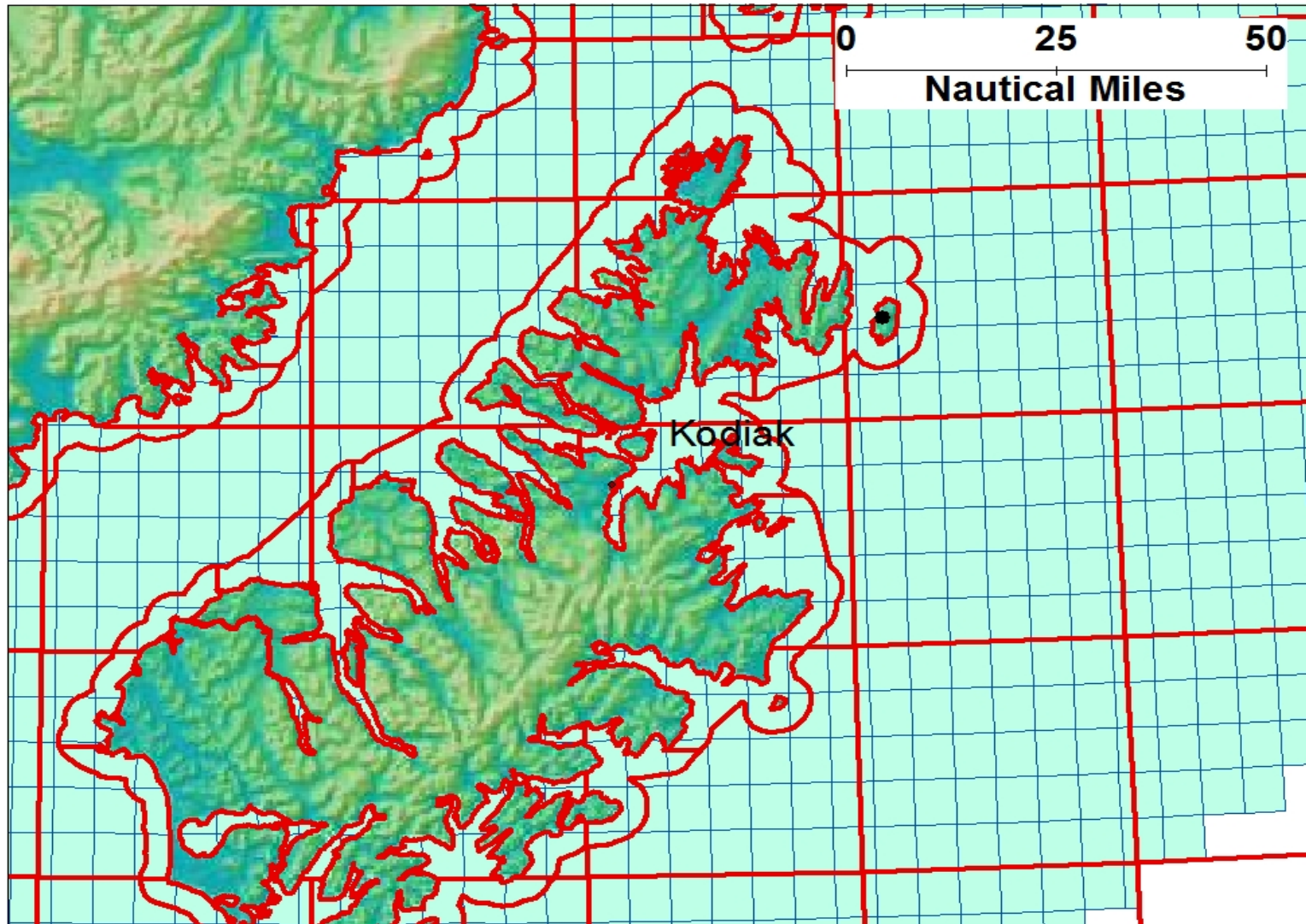# VMS Vessels > 5 knots
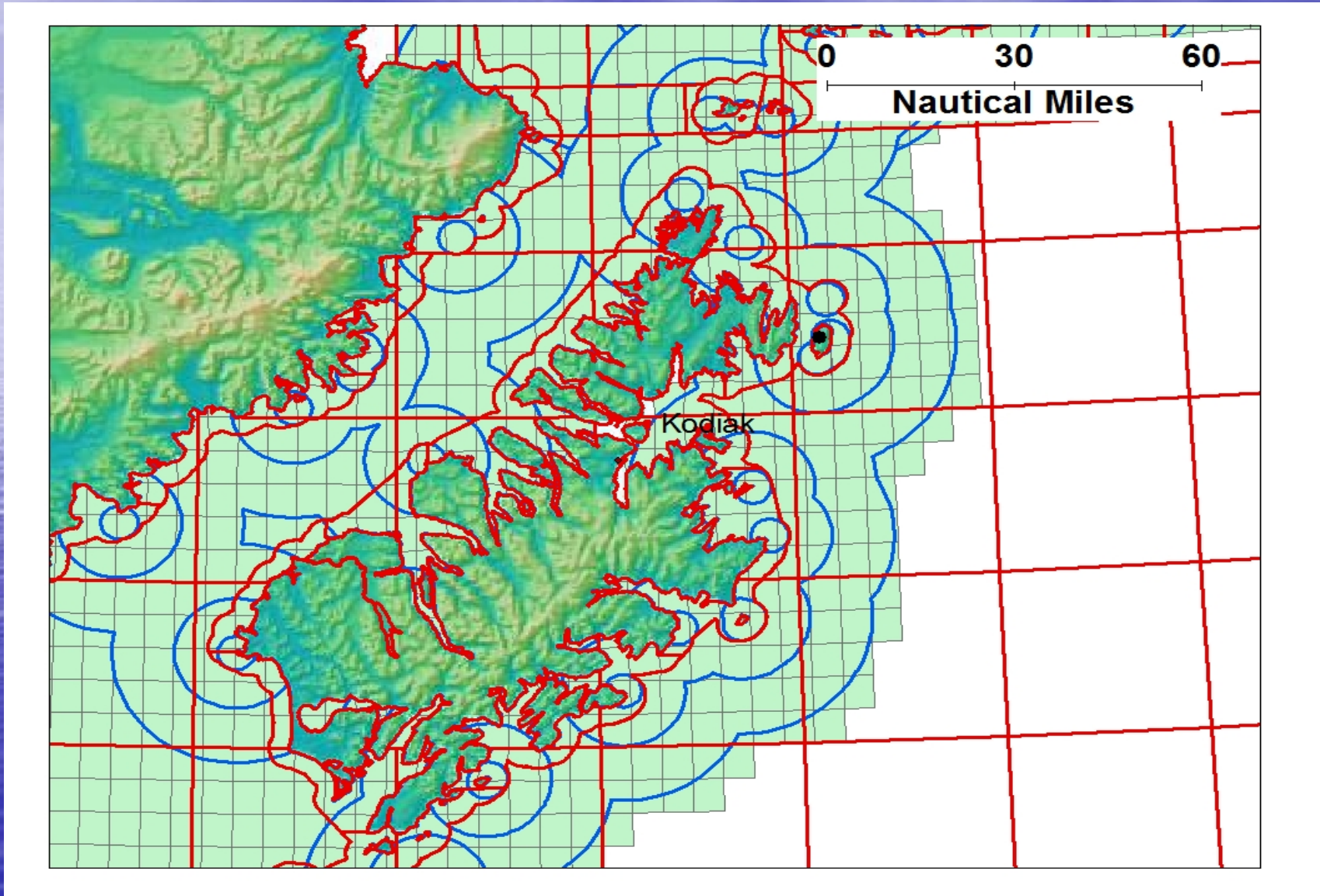
- VMS Vessels captured by VMS speeds

- Redacted

VMS Vessels > 1 and < 4.5 knots

- Redacted

10Km vs State Statistical Area

Critical Habitat Intersected with 10k & Stat Areas

Economic Data in VMS C-I-A

- First Wholesale Values are added to this dataset.

- ExVessel Prices are also added to this datasets

  – Allowing us to see a snapshot of the revenue at risk.

ReCap of VMS Enabled C-I-A

- Two Versions: Shapefile and Statistical Area.

  – Statistical Areas: 10km, 20km, ~30nm

ReCap of VMS Enabled C-I-A

- Versions 2: Transfers attributes from a GIS Shapefile

  – Will Transfer the attributes of a GIS Shapefile the Catch Accounting Data

  – Made to Order product and it not quick.
    - Take about 3 hours per year of data to process. *SSL Critical Habitat is complete 2003-2006*

Extrapolated Observer Data

- Extrapolated Obs Data: 1991 – 2005
  - Point data by Lat and Long
  - Dataset includes: Pollock, Atka mackerel and P.cod
  - Is quick to process.
  - Shows a trend through for 14 years.

- Drawbacks
  - Does not show unobserved vessel fleet
  - Difficult to put an economic value on effects of closures

Extrapolated Observer Data

- Extrapolated Obs Data:
  - Complete
    - In and Out of Critical Habitat (db)
    - In and Out of current Closures Areas (db, xls)

  - By SSL Site. Where the 20nm Buffers overlap, so does the catch.
    - Data is queryable by individual SSL site.

The Data

- Animated VMS-C-I-A Data

-