MBNMS Aerial Requirements

Matthew Pickett
CDR, NOAA (Ret)
ONMS Aviation Operations Coordinator
• 1997 - CINMS begins Aerial Surveys
• SAMSAP – Sanctuary Aerial Monitoring & Spatial Analysis Program
• Laptop Computer, GPS, Customized Data Collection Software
• 1000 ft 110 kts 100% visual coverage
• Living Marine Resource Surveys
• Vessel and Visitor Use Surveys
• Summer 2007 – 4 Blue Whales found dead in SB Channel
• Historic SAMSAP data used to determine seasonality and abundance
• Weekly patrol flights initiated to trigger Notice to Mariners
• Ongoing process to explore alternatives for traffic
2007 Shipping Lanes Aerial Surveys

2008 Shipping Lanes Aerial Surveys
ONMS Aircraft Requirements

- Living Marine Resource Surveys
- Vessel and Visitor Use Surveys
- Remote Sensing
- Enforcement
- Emergency Response
- Education/Outreach
MBNMS Aircraft Requirements

- Monthly Visual Surveys
- Weekly Enforcement Flights
- Emergency Response
- 5-yr Remote Sensing Cycle
Regional Requirements

- MBNMS: 140 hrs → 320 hrs
- OCNMS: 80 hrs → 200 hrs
- GFNMS: 40 hrs → 120 hrs
- CBNMS: 30 hrs → 70 hrs
- CINMS: 350 hrs → 270 hrs
NOAA Twin Otter
A multi-mission platform to support
West Coast National Marine Sanctuaries

- Twin Engine Turboprop
- Long Endurance
- High Wing, Slow Speed
- Dual Bubble Observer Windows
- Belly Camera and Instrument Port
Hawaiian Islands Humpback Whale

Living Marine Resource Surveys
Remote Sensing

- Topographical LIDAR
- Hyperspectral Scanner
- Digital Camera
- Bathymetric LIDAR
- Thermal Sensors
ONMS Remote Sensing

- Watershed Analysis
- Coastal Erosion
- Sea Level Rise

Big Sur LIDAR DSM

Big Sur Digital Imagery

Data acquired on April 25, 2004
Morro Bay, CA Lidar Digital Surface Model, Acquired on April 22, 2004
Elkhorn Slough
ONMS Aerial Enforcement

- Ongoing Evaluation
- Support for USCG and CDF&G
- Marine Zone Enforcement
- Shipping Lanes
- Vessel Discharge, No-Anchoring
- Overflight Restrictions
Emergency Response

CINMS-NOAA Flights of Reported Oil Spill 27OCT98 Recorded at 1930 and 2330 GMT

NOAA-CINMS
Pilot: LCDR Pickett
Crew: Walterberger
Platform: NOAA64 Fixed Wing

~ 13 NMI Length

Sighting two 2330 GMT
Sighting one 1930 GMT
CINMS 6NMI Boundary

8 0 8 16 24 32 Kilometers
Education and Outreach

Pacific Dream Machine Airshow 2008
Half Moon Bay Airport
Next Steps

• Update Data Collection Software
• Finalize Survey Protocols with RCs
• Finalize site enforcement requirements
• Develop Pool of Trained Observers
Bringing existing NOAA resources and expertise to National Marine Sanctuaries

Questions?