

### Alaska Marine Debris: Information & Actions

Peter Murphy Alaska Regional Coordinator NOAA Marine Debris Program (*Genwest Systems*)





# OUTLINE

**1) Marine Debris Issue & Impacts** – What is it and what does it do?

- **2)** Marine Debris In Alaska How is the issue different here?
- **3)** Marine Debris Efforts / Actions What is being done?
- 4) Marine Debris Next Steps Emerging Issues,

International Engagement, Action Planning

5) Questions?



# What is Marine Debris?

1

"any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or the Great Lakes."

## **NOAA** Marine Debris Program

Established in **2006** by Congress as the federal lead for marine debris

**Vision:** the global ocean and its coasts free from the impacts of marine debris

**Regional** Coordination

#### **Pillars:**

- Removal
- Research
- Prevention
- Response



# From

# From Micro to Macro





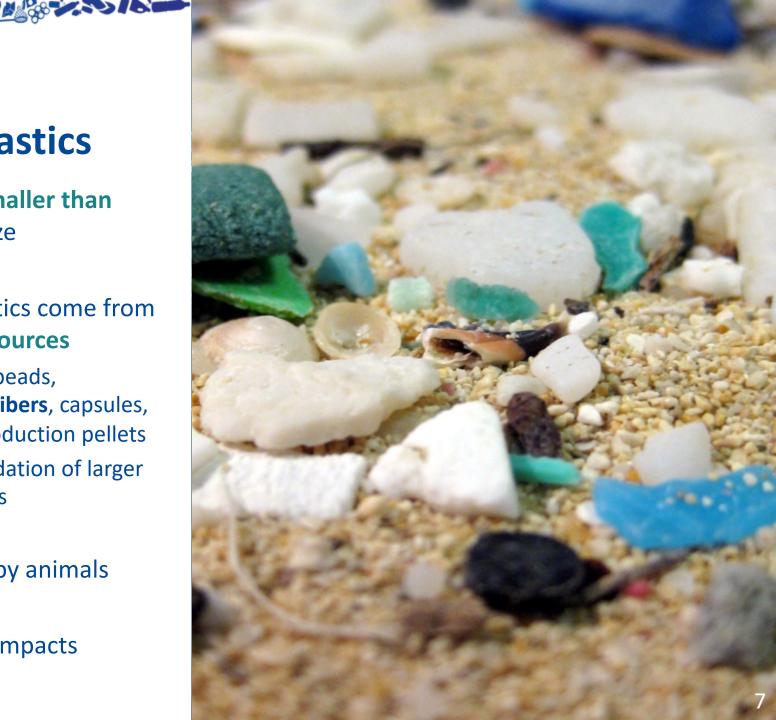
### **Plastics**

- Common form of marine debris that are nonbiodegradable
- Estimated 8 million metric tons of plastic enter the ocean every year
- Break into small pieces (called microplastics)



### **Microplastics**

- Plastics smaller than 5mm in size
- Microplastics come from ulletmultiple sources
  - Microbeads, • microfibers, capsules, preproduction pellets
  - Degradation of larger • plastics
- Ingestion by animals
- **Chemical impacts**



# **Microplastics**



Laboratory Methods for the Analysis of Microplastics in the Marine Environment: Recommendations for quantifying synthetic particles in waters and sediments

NOAA Marine Debris Program National Oceans: and Atmospheric Administration U.S. Department of Commerce Technical Memorandum NOS ORAR-48 July 2015

NOAR

#### Quantification of Microplastics on National Park Beaches

64/01/2011 - 01/11/2017 Principal Internet Register: Technik - Statement Register Re

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### Derelict Fishing Gear

- Commercial or recreational fishing gear that is lost, abandoned, or discarded
- Made with synthetic materials and metal
- Includes:
  - Nets
  - Lines
  - Crab/Lobster/Fish traps or pots





# Sources of Marine Debris



### **Ocean-Based**

- Commercial and recreational fishing
- Offshore oil and gas
- Cargo ships
- Abandoned and derelict vessels



### Land-Based

- Littering
- Dumping
- Poor waste management practices
- Storm water discharge
- Extreme weather events



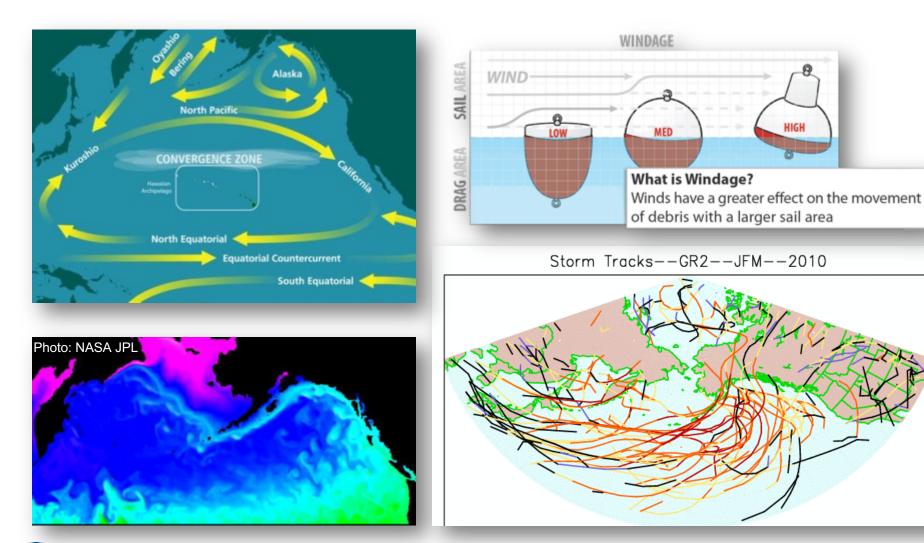
# Impacts

- Ingestion
- Entanglement
- Ghost fishing
- Vessel Damage and navigational hazard
- Habitat destruction
- Invasive species
- Economic loss:
  - Tourism
  - Recreation
  - Fisheries
  - Vessel Damage





# How Debris Gets to Alaska





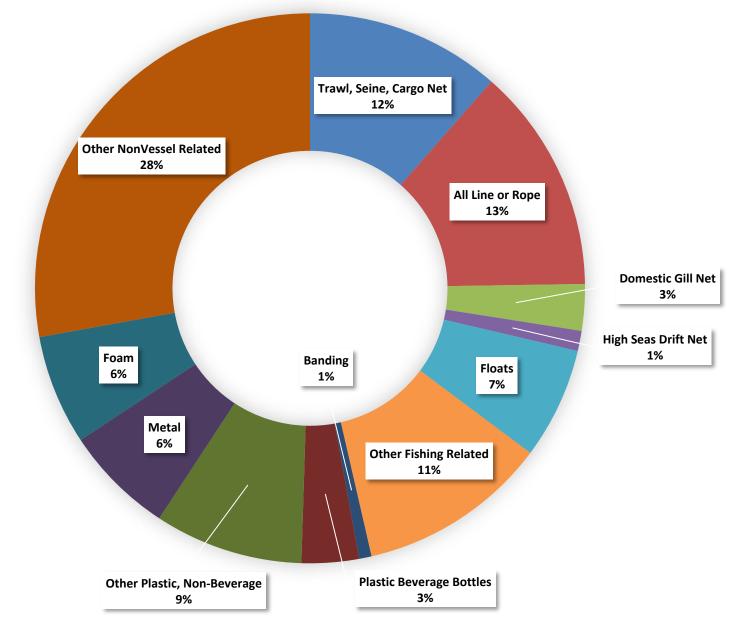
# Marine Debris In Alaska

- Location
  - Hotspots
- Quantity
  - Highly Varied
- Composition
  - Consumer Debris
  - Fishing Gear
  - Construction
  - Shipping
- Challenges
  - Access
  - Seasonality
  - Disposal





# **Debris Composition**







#### - NGO's / Small Business

- Gulf of Alaska Keeper
- Center for Alaskan Coastal Studies
- Island Trails Network
- Airborne Technologies, Inc.
- Sitka Sound Science Center
  Alaska Marine Stewardship Foundation
- Island Charters
- Federal
  - NOAA NMFS, Auke Bay Labs
  - USFWS, USFS, NPS, USCG, DOI, and more!
- State + Local
  - DEC, DF&G, Boroughs, Communities
- Academic
  - University of Alaska, Anchorage, Fairbanks
- Working Groups
  - PEG (Pinniped Entanglement Group)
  - Abandoned & Derelict Vessels





# Samp

# Sample Alaska Projects

#### Sidescan Sonar Survey

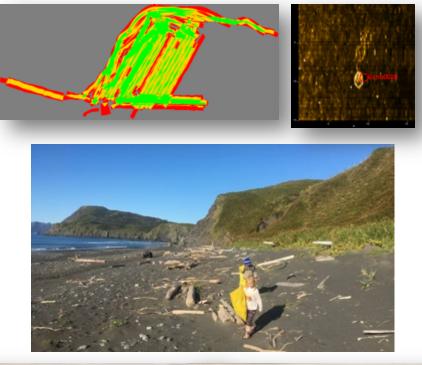
- Auke Bay Labs Juneau
- 2009-2010
- Abundance and impact of derelict Dungeness crab pots

#### **Kodiak Shoreline Cleanup**

- Island Trails Network Kodiak
- Volunteer cleanup at 80+ road system beaches, coupled with shoreline monitoring and local outreach.

### Zero Waste Schools + Businesses

- Center for Alaskan Coastal Studies
  Homer
- Education and waste audits in local schools and businesses







# Alaska – On the Horizon

- Backdrop
  - Opening of the Arctic
  - Weather/season changes
  - Increased national and international interest
- What's Coming
  - New and Emerging Partners
  - Ongoing community microplastic interest (research + outreach)
    - University of Alaska Anchorage
  - Net removal and recycling from Dutch Harbor
    - WAP + NFWF project
  - MD as restoration activity
    - Potential to integrate MD as option for compensatory actions in case of injury or impact
  - Legacy debris
    - DoD and other legacy debris sources



Plastic in stomach of a tufted puffin from Amchitka Island. (Doug Causey)







# International Engagement

- General International Engagement
  - United Nations
    - UNEA
    - Regional Seas
  - G7 + G20
  - APEC + ASEAN
- Arctic Specific Engagement Arctic Council
  - Structure Topic-specific working groups – 6 in total
    - PAME Protecting Arctic Marine Environment
      - "Desktop Study"
      - Arctic Action Plan
    - AMAP Arctic Monitoring & Assessment Program
      - Marine Litter Monitoring Guidelines
  - Iceland Chairmanship
    - 2019-2021
    - Marine Litter as focus topic
    - Arctic Marine Litter Symposium April 2020





#### ARCTIC MARINE ENVIRONMENT

Anote Council Working Groups have contributed significantly to scientific tronsledge and undertanding of the Anote marine annormement. The Anote Council will continue its work on monitoring and assessment, protection of marine and costall accepteme, and promotion of sustainable use of ranne motives.

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# **Alaska Action Planning**

### Completed Action Plans

- Hawaii, California, Oregon, Washington
- VA, FL, Great Lakes, Gulf of Mexico,

### • Action Plans

- Consensus on gaps, needs and priorities (Not Prescriptive)
- Community Driven NOAA often facilitates, but not a "NOAA product"

### - Benefits

- Collaboration and communication
- Consensus can help in proposals and funding
- Current Alaska Approach

- 1) Capture community knowledge
- 2) Expand to more formal structure
  - Workshop tentatively targeted for Winter









### **Questions?**

Peter Murphy peter.murphy@noaa.gov marinedebris.noaa.gov marinedebrisblog.wordpress.com

Hallo Bay, Alaska