



Sources of Marine Litter: Perspectives from Arctic Communities

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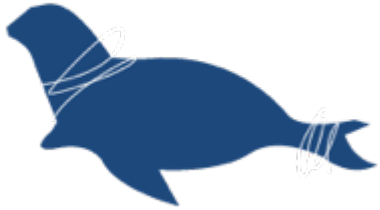
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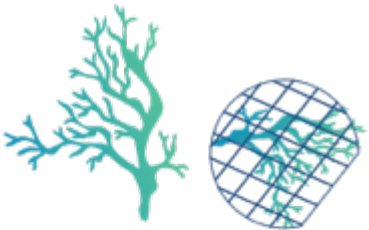
IMPACTS OF MARINE DEBRIS



INGESTION



ENTANGLEMENT & GHOSTFISHING



HABITAT DAMAGE



NON-NATIVE SPECIES



Marine litter is a major issue for coastal Alaskan communities



Identifying
sources is
important for
the proper
management of
marine litter



Sources of marine litter in the Alaska Arctic

- Foreign and domestic origin
- Land-based (household items)
- Marine-based (fishing gear and items)
- Container spills
- Big Three:
 1. plastic bottles
 2. Other plastics (nurdles, microplastics)
 3. Fishing-related gear



Sources are *preventable* causes of human-caused wildlife injury and mortality



Sources of marine litter in Arctic Alaska

Beaufort Sea

Chukchi Sea

RUSSIA

Cape Krusenstern National Monument

Bering Land Bridge National Park

ALASKA

National Park Service cleans
11 tons of marine litter in 2015

Bering Sea



Sources of marine litter in Arctic Alaska

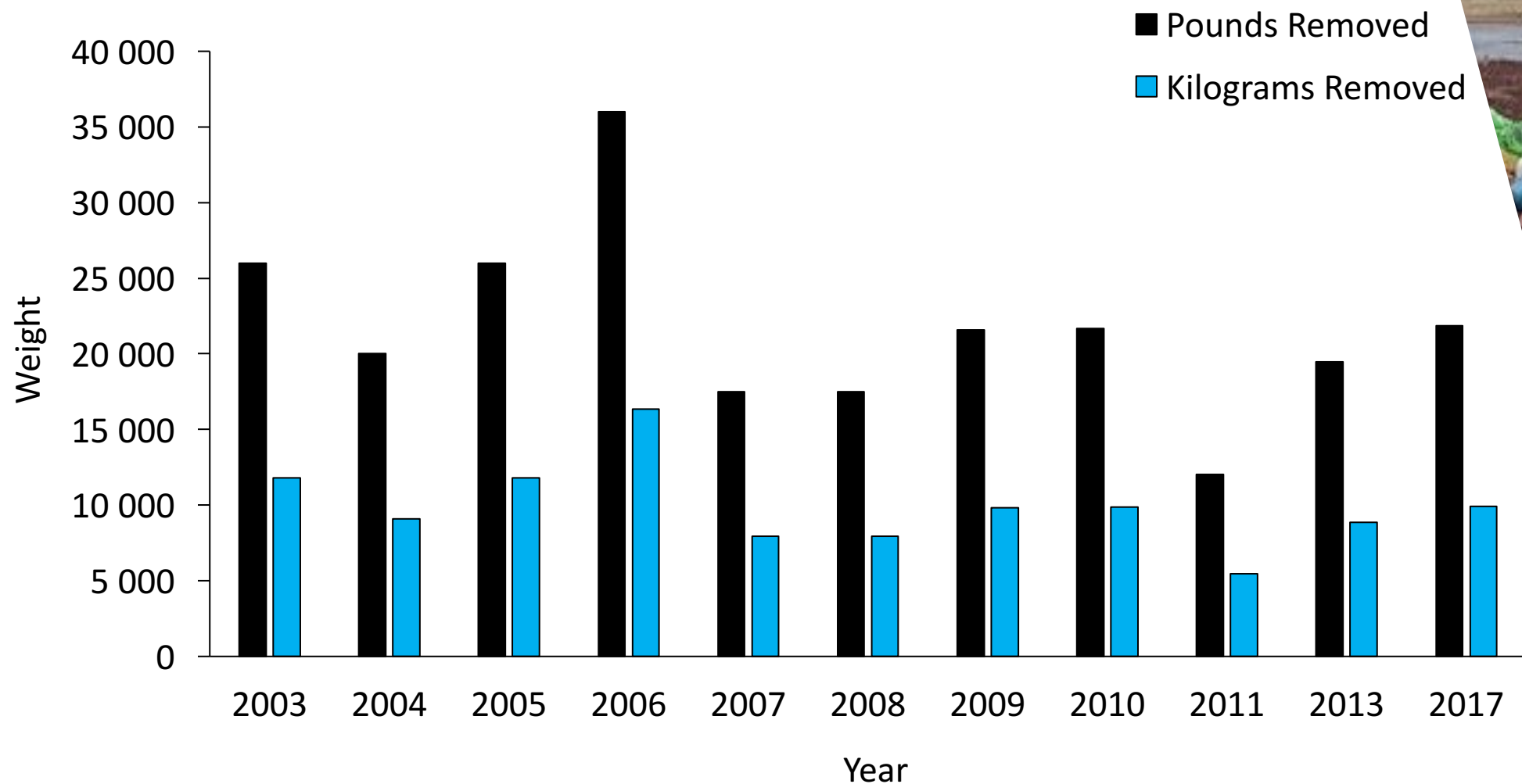
Land-based litter resulted from coastal communities and fish camps



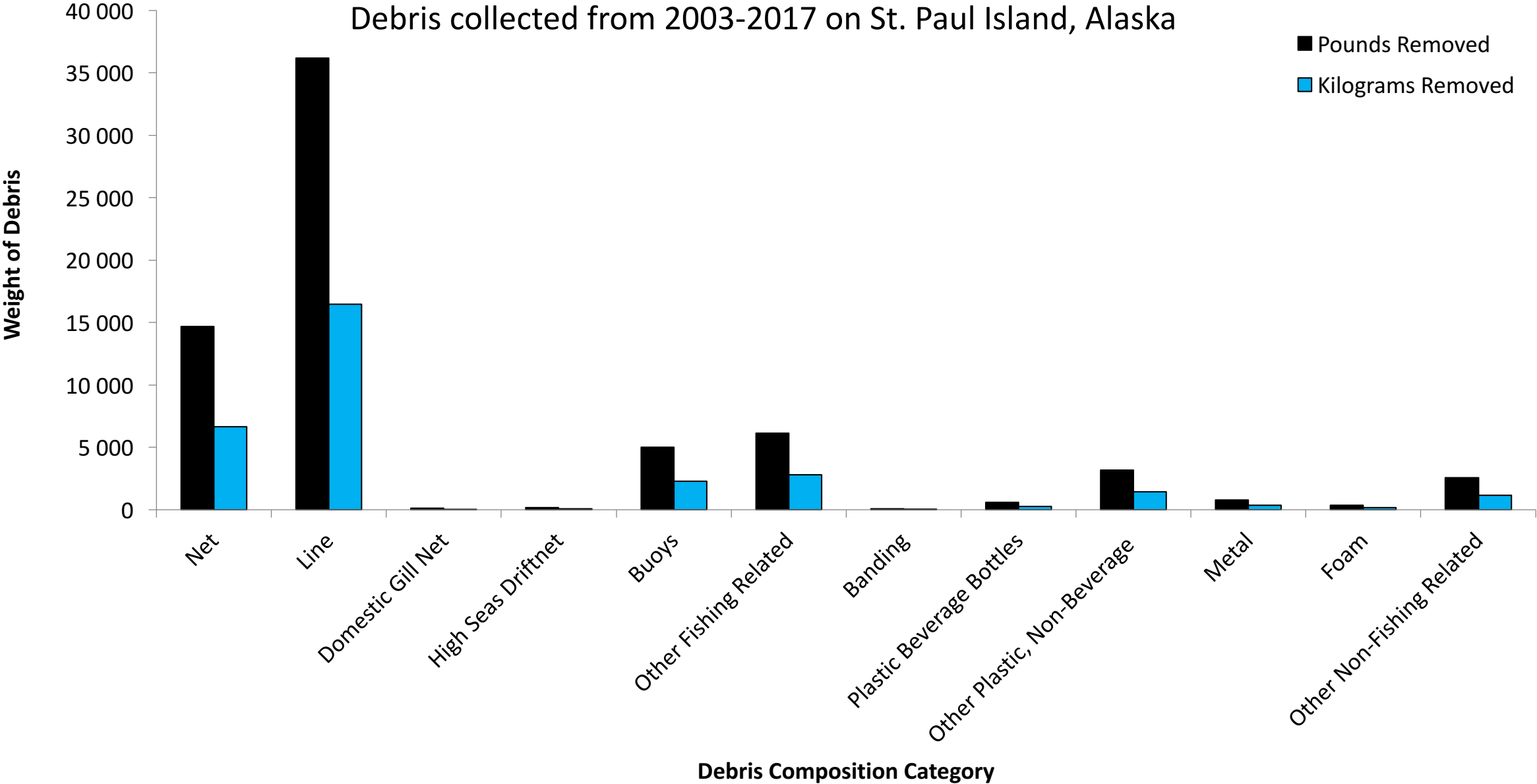
St. Paul Island
cleans
marine litter
from shores
frequently



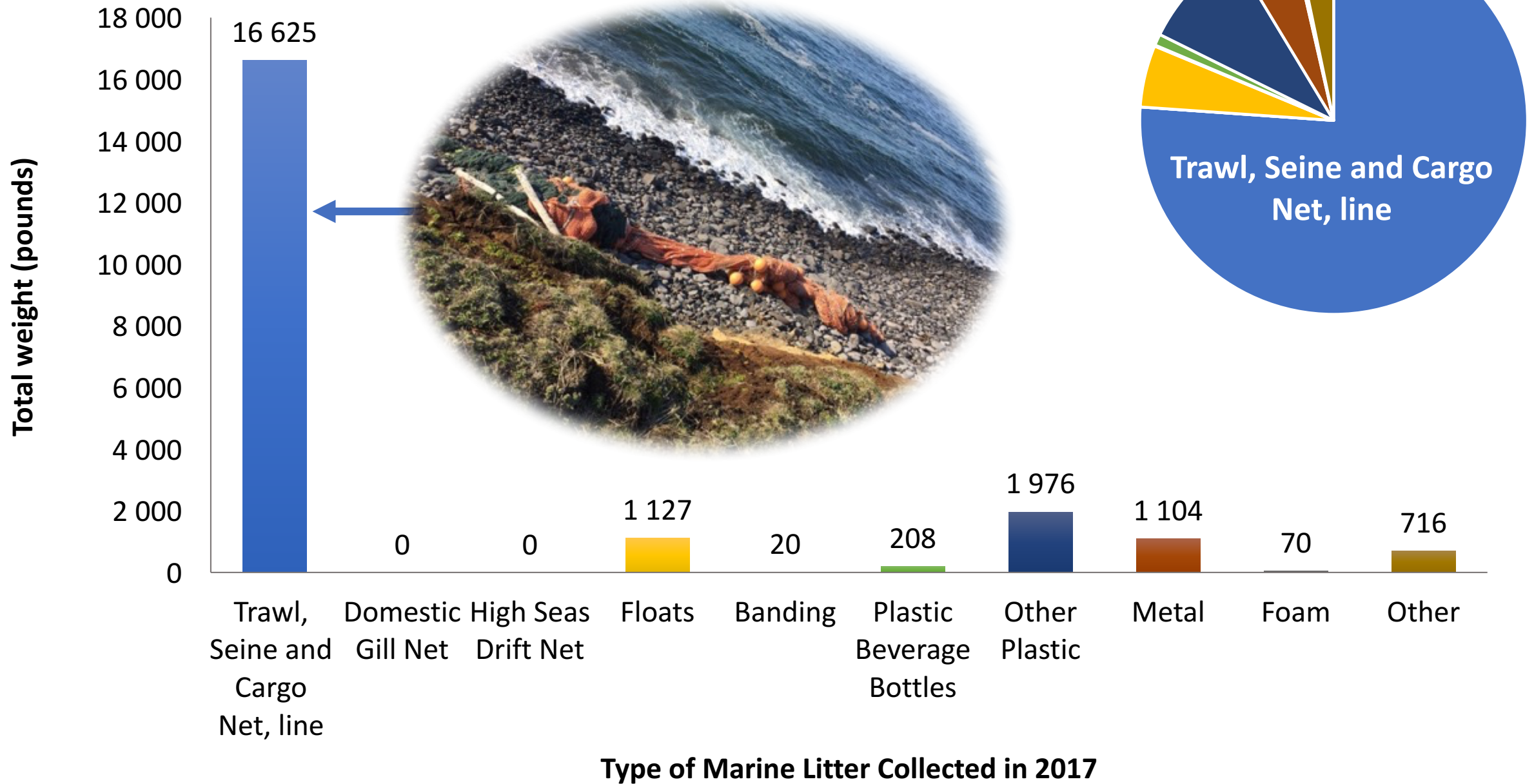
Sources of marine litter in Arctic Alaska



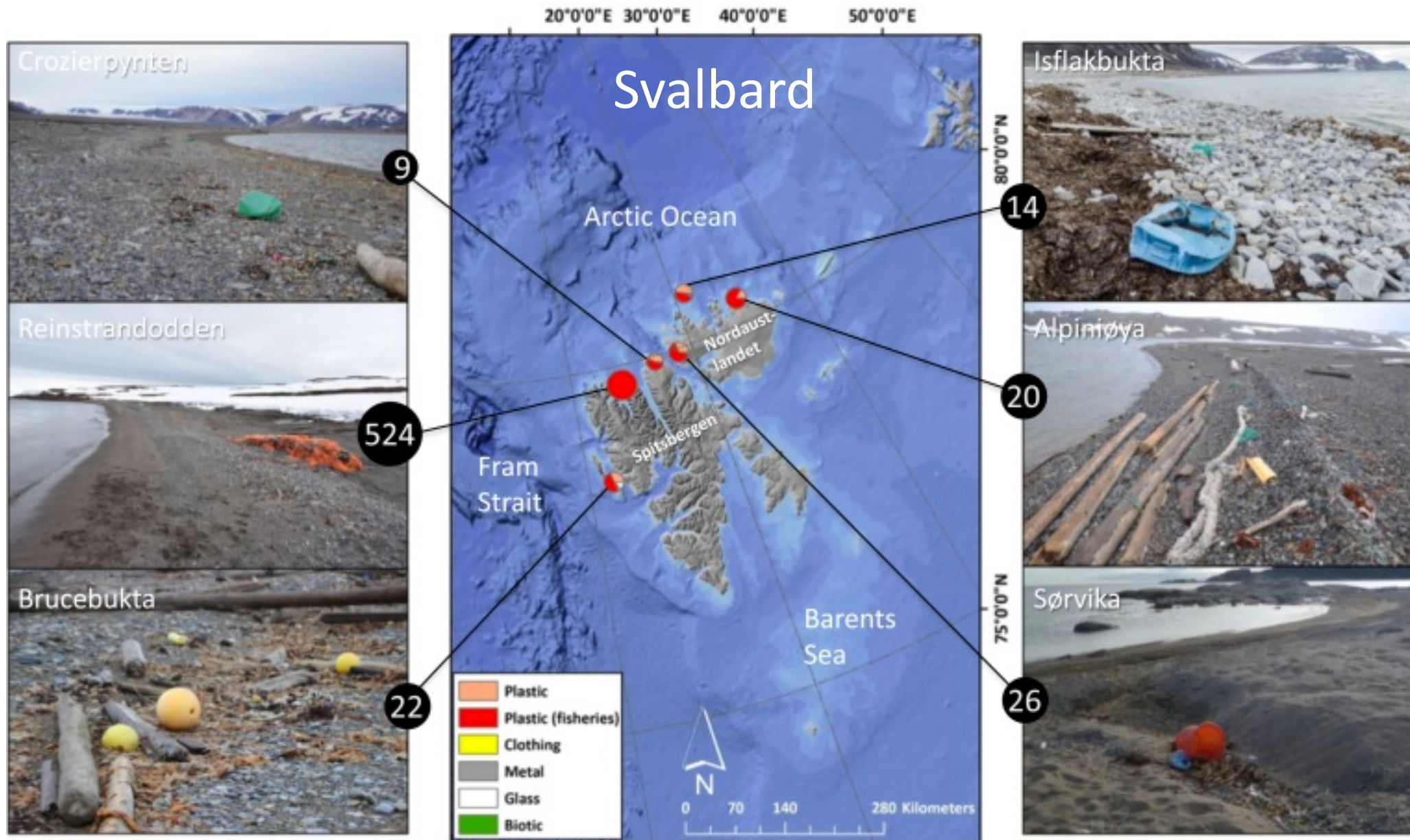
Sources of marine litter in Arctic Alaska



Sources of marine litter in Arctic Alaska



Sources of Marine Litter in the Arctic



*Bergmann et al.
2017
Marine Pollution
Bulletin*

Sources of Marine Litter in the Arctic

- The of litter pollution of remote Arctic beaches is similar to densely populated areas.
- Plastics from fisheries account for > 80% of litter on Arctic beaches- *most of which originates from fisheries.*
- Plastic litter has deleterious effects on Arctic wildlife.



Sources of Marine Litter in the Alaska Arctic

Sources are difficult to identify:

- Diverse and diffuse
- Land- or marine-based
- Degrades over time
- Transported long distances
- Deposited on shorelines (remote underestimated) or settles on seafloor
- Ocean currents
- Continued improvement and research of marine litter sources
- Better prevention measures on fishing vessels
- Reduced production of common litter items (plastics)



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