

## INFORMATION NEEDS

### 1. Agency Caucus: NMFS, FWS, MMC, NSF, CCC, Navy, MMS

#### GETTING INFORMATION NEEDED

Fill information gaps (including baselines):

Marine mammals (populations, distributions, behavior, anatomy, etc)

Sound sources (ambient levels, source characteristics and distributions, etc)

Effects/Level of risk (behavioural and physiological impacts, etc)

→ CEEs (needs clarification)

Management and mitigation (effectiveness, risk assessment methods, etc)

Fund the research/information gathering:

Partnerships like NOPP

Stock assessments

Other

Adopt permitting and authorizations appropriate to level of risk and what is known now

Streamline processes

### 2. Environmental NGOs caucus

#### INFORMATION NEEDED TO ADDRESS UNCERTAINTIES

(1) Research on distribution, abundance, and habitat use and identification of biological hotspots

(2) Development and research on alternative technologies and source level reduction

(3) Standardized, systematic data collection from all available platforms and independent analysis, made available to the public

(4) Identification and monitoring of acoustic hotspots

(5) Monitoring measures to ensure greatest possible detection and analysis of strandings and deaths at sea coincident with noise

### 3. Research caucus

#### INFORMATION NEEDS TO REDUCE UNCERTAINTY

•Prioritize and endorse basic and applied research recommendations

•Diversify funding and encourage cooperation among funding entities

•Establish a statutory and regulatory framework that protects animals while removing obstacles to research needed for conservation

### 4. Industry caucus (oil and gas, shipping)

#### **Getting information to reduce uncertainties:**

Generate additional information to refine/populate risk assessments:

Acoustic sound source characteristics and propagation from sound sources.

Specific sensitivity of marine mammals to sound and potential for physical impacts to the animals.

Behavioral reactions of marine mammals to sound, and whether it is biologically significant.

Practical and effective mitigation strategies and technologies.

Research tool development (e.g. auditory modeling and animal tracking technology)

Conduct research studies that establish appropriate exposure thresholds.

Generate information on life histories of various species, e.g. abundance, distribution, behaviors, etc.