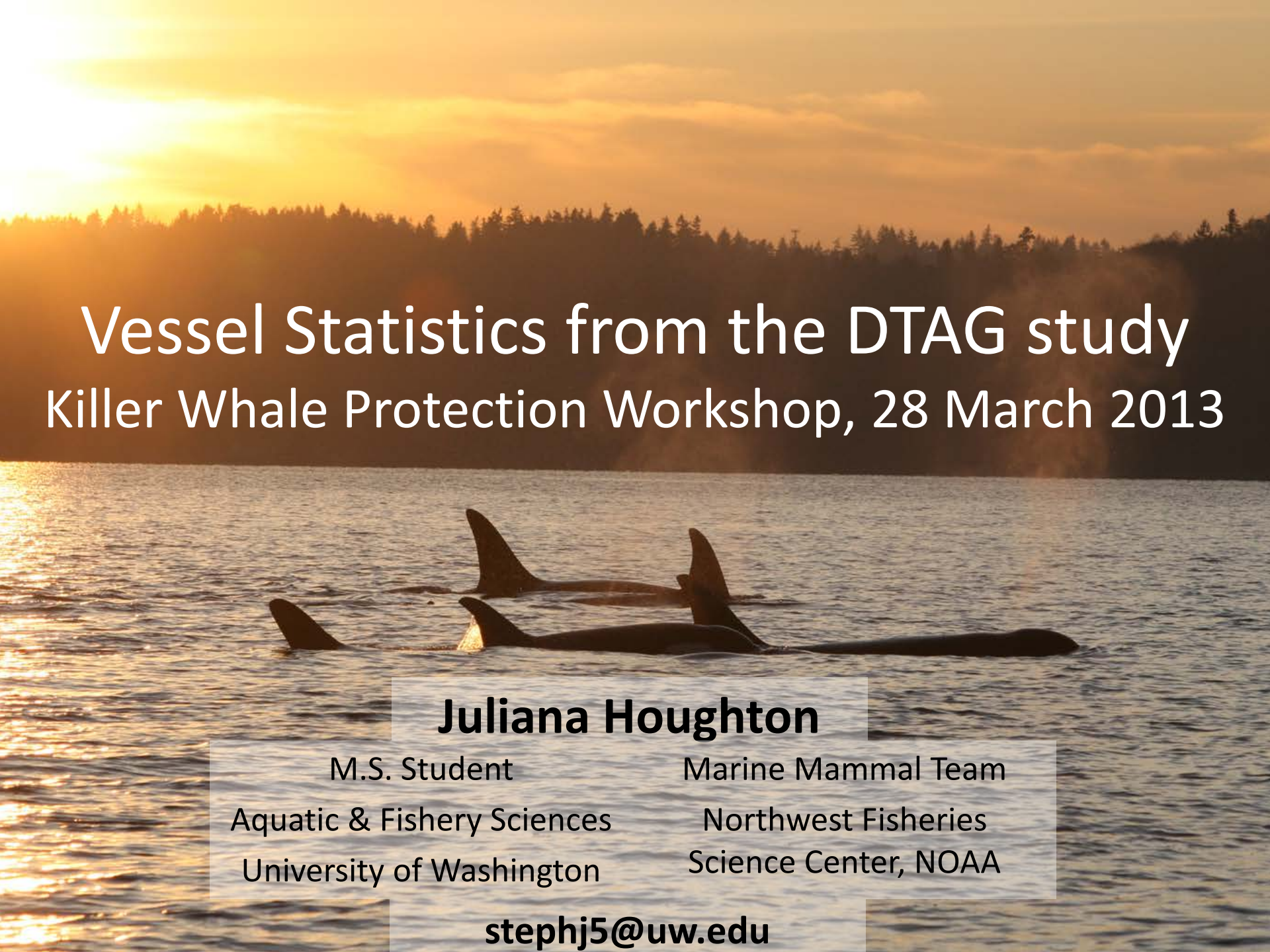

Vessel Statistics from the DTAG study

Killer Whale Protection Workshop, 28 March 2013

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Lusseau et al. 2009, Noren et al. 2009, Williams et al. 2009
Foote et al. 2004, Holt et al. 2009, 2011, Wieland et al. 2010

Investigating vessel noise effects on SRKW behavior using DTAGs

MM Holt, MB Hanson, CK Emmons (NWFSC), J Houghton (UW), D Giles (UCD), RW Baird (Cascadia Research), J Hogan (Killer Whale Tales)

Funding: NOAA NMFS NWFSC, NOAA NMFS Ocean Acoustics Program

Study Objectives:

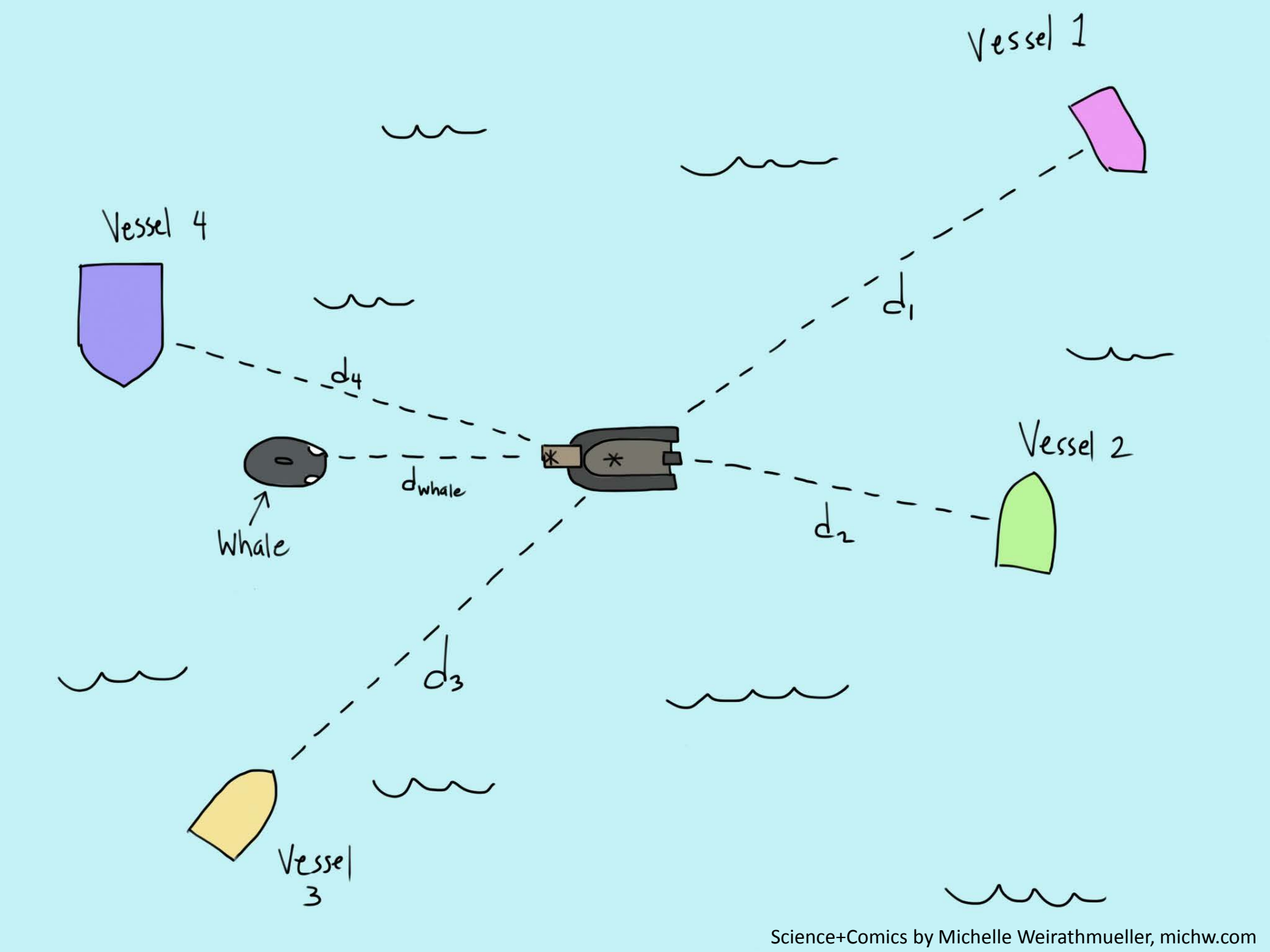
- Quantify noise levels (NL) received by SRKWs
- Quantify the relationship between vessels & noise
- Investigate acoustic behavior during different activities, especially foraging
- Determine potential effects of vessels/noise on behavior

Tags Deployment Summary:

- 23 tags deployed
  - 9 in Sep 2010
  - 5 in Jun 2011
  - 9 in Sep 2012
- Duration
  - mean = 3.5 hrs
  - range = 43 min to 7.5 hrs
  - total = 81.6 hrs

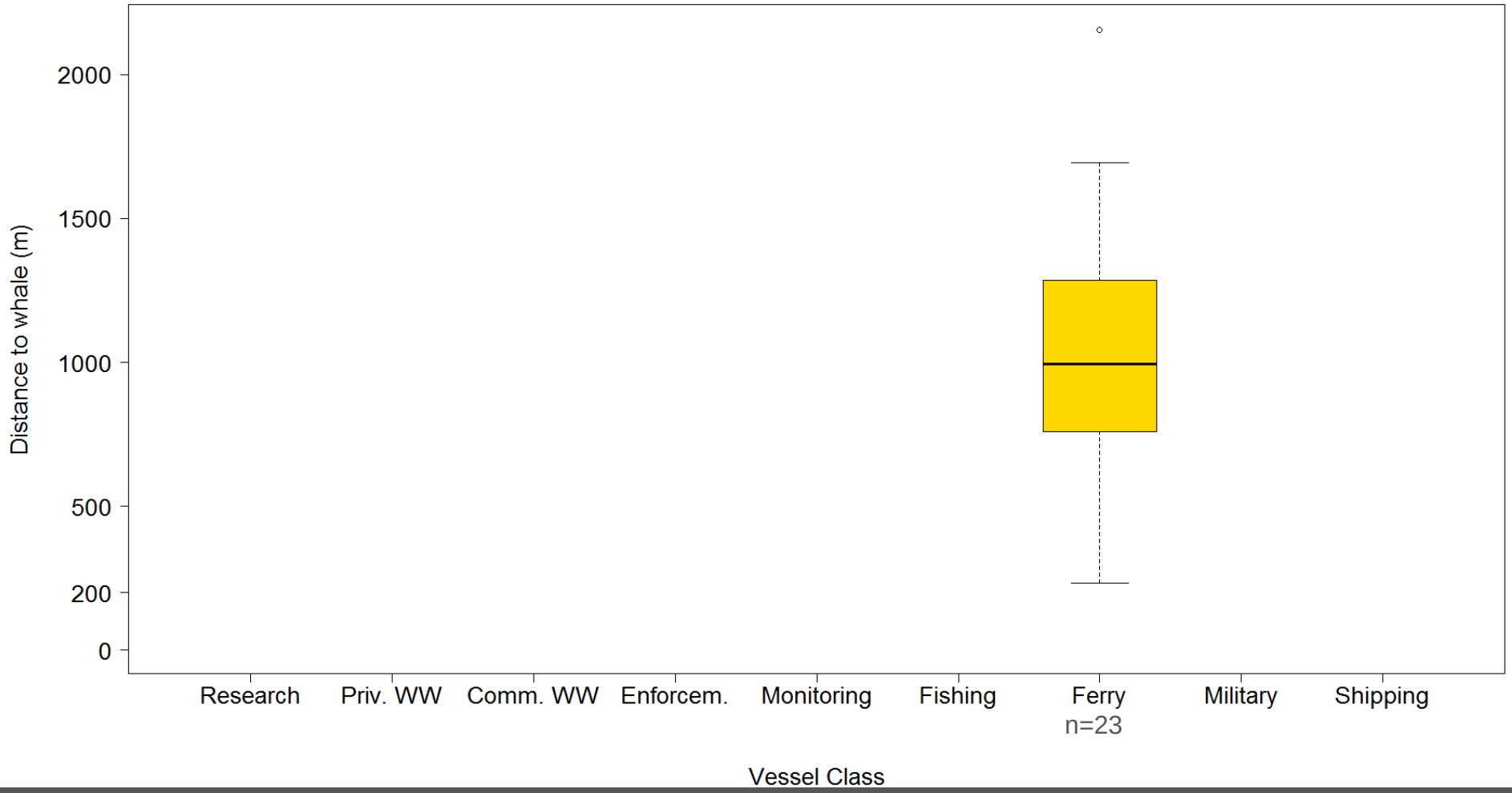
Developed by Woods Hole Oceanographic Institute

Developed by D. Giles, UC Davis

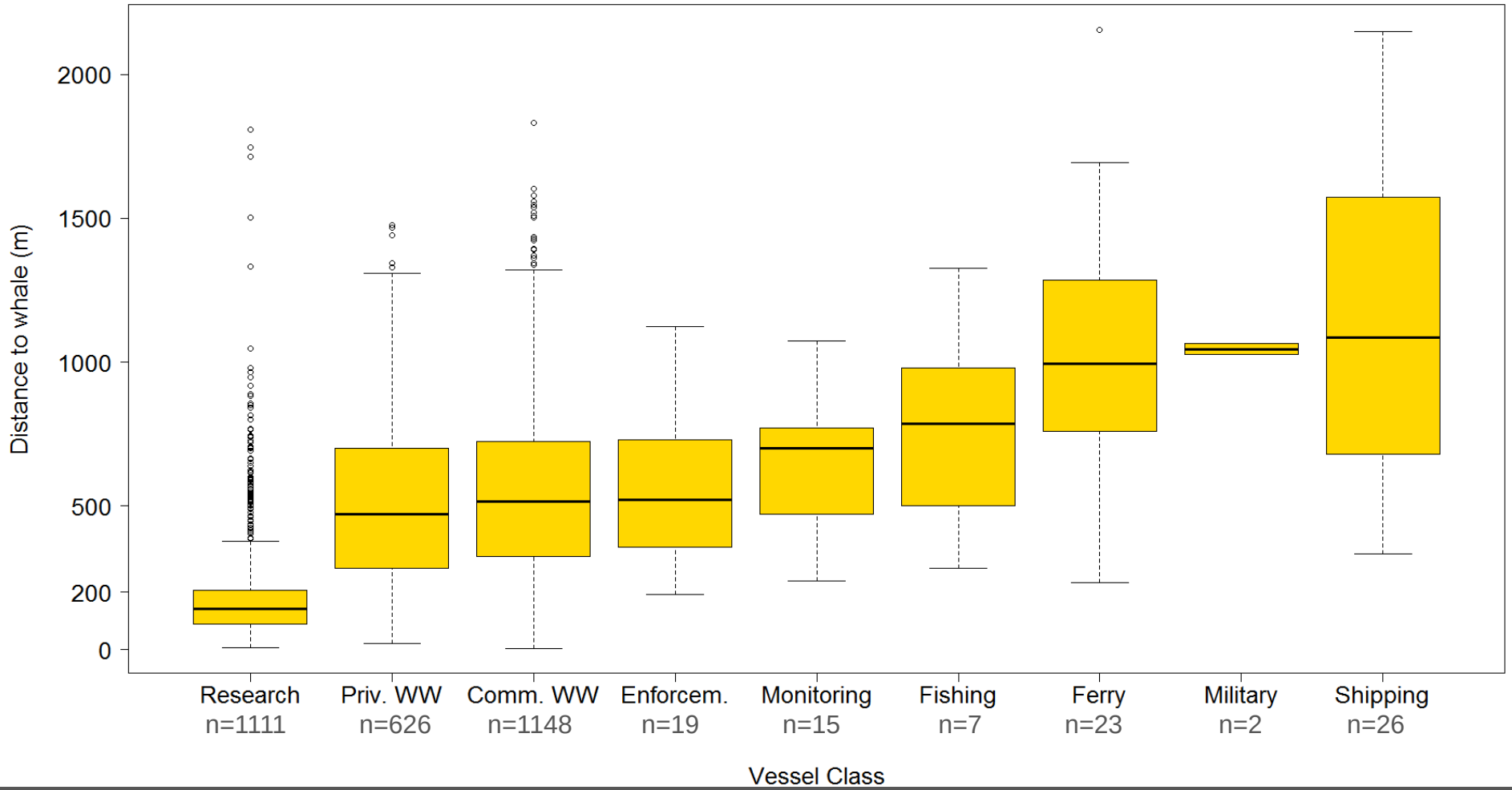


Science+Comics by Michelle Weirathmueller, michw.com

DISTANCE TO TAGGED WHALE BY VESSEL CLASS

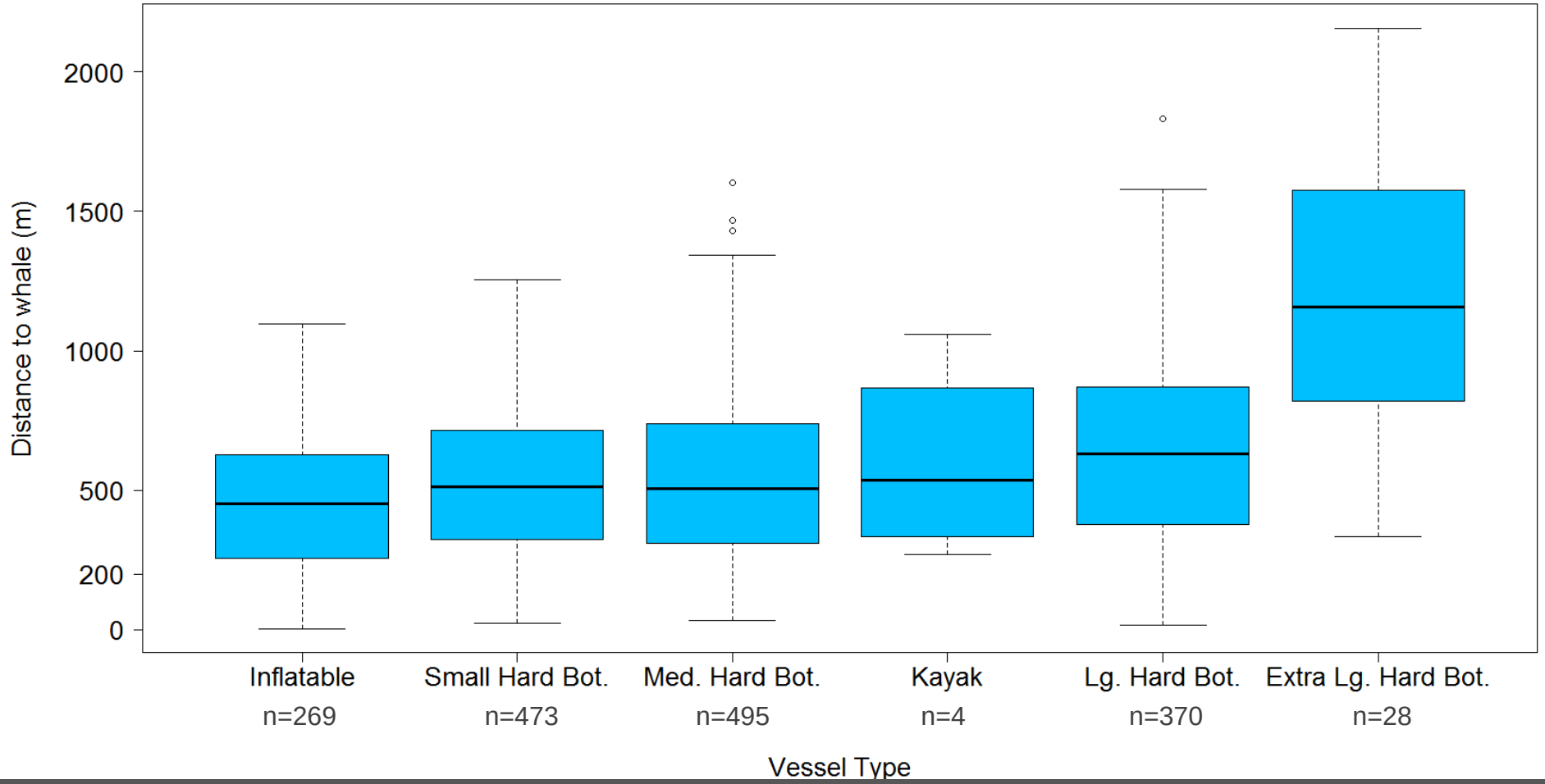


DISTANCE TO TAGGED WHALE BY VESSEL CLASS



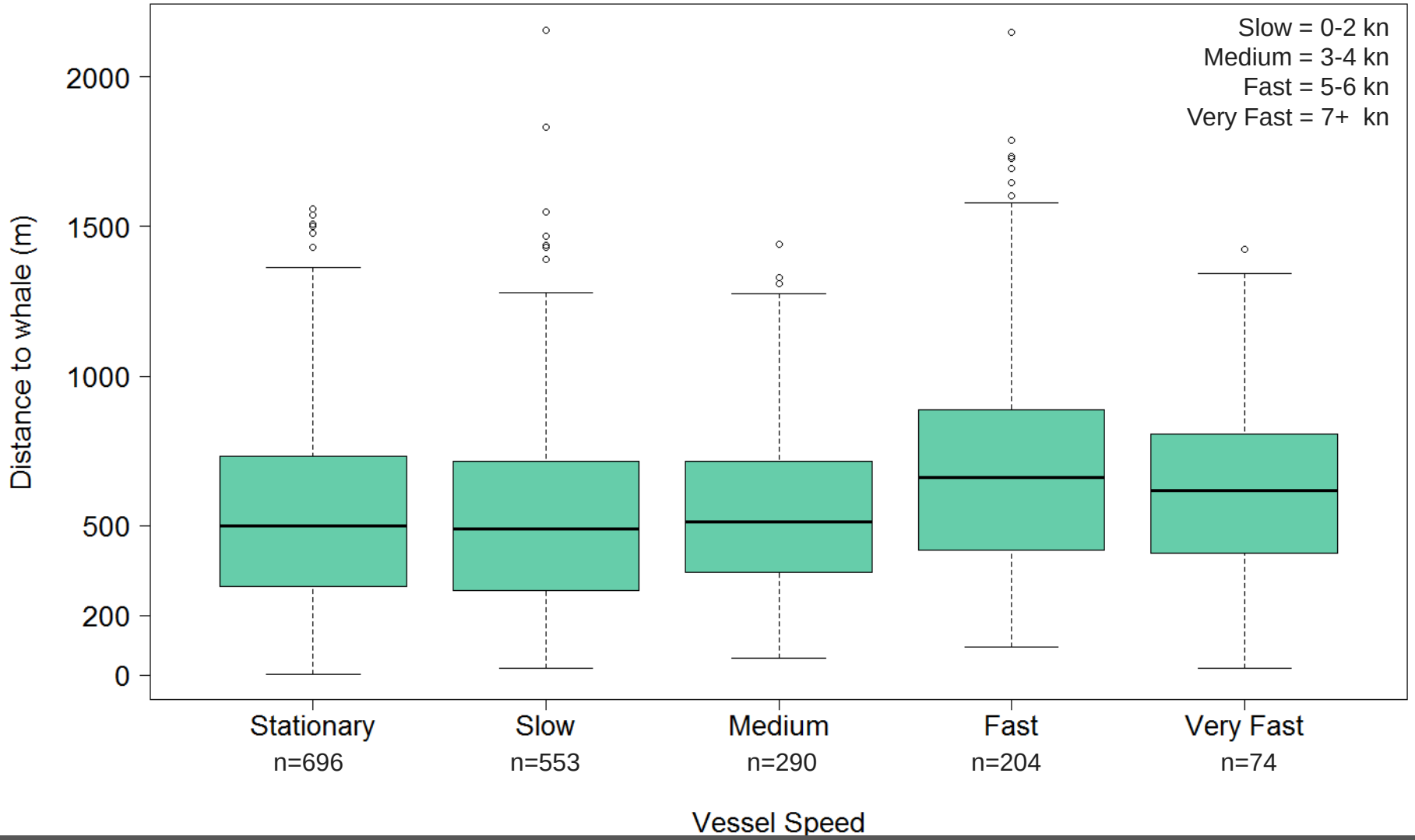
DISTANCE TO TAGGED WHALE BY VESSEL TYPE

(Excluding research vessels)

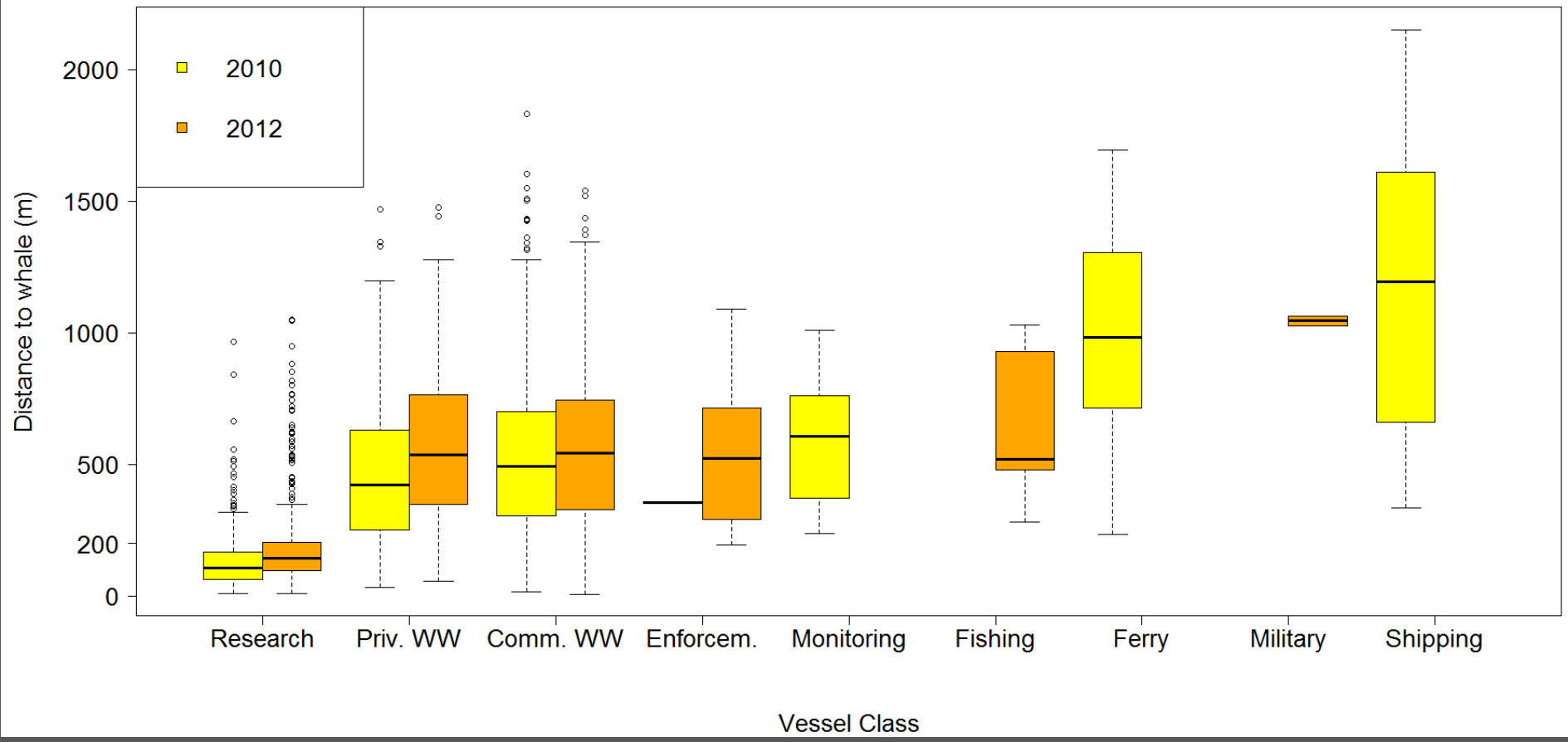


DISTANCE TO TAGGED WHALE BY VESSEL SPEED

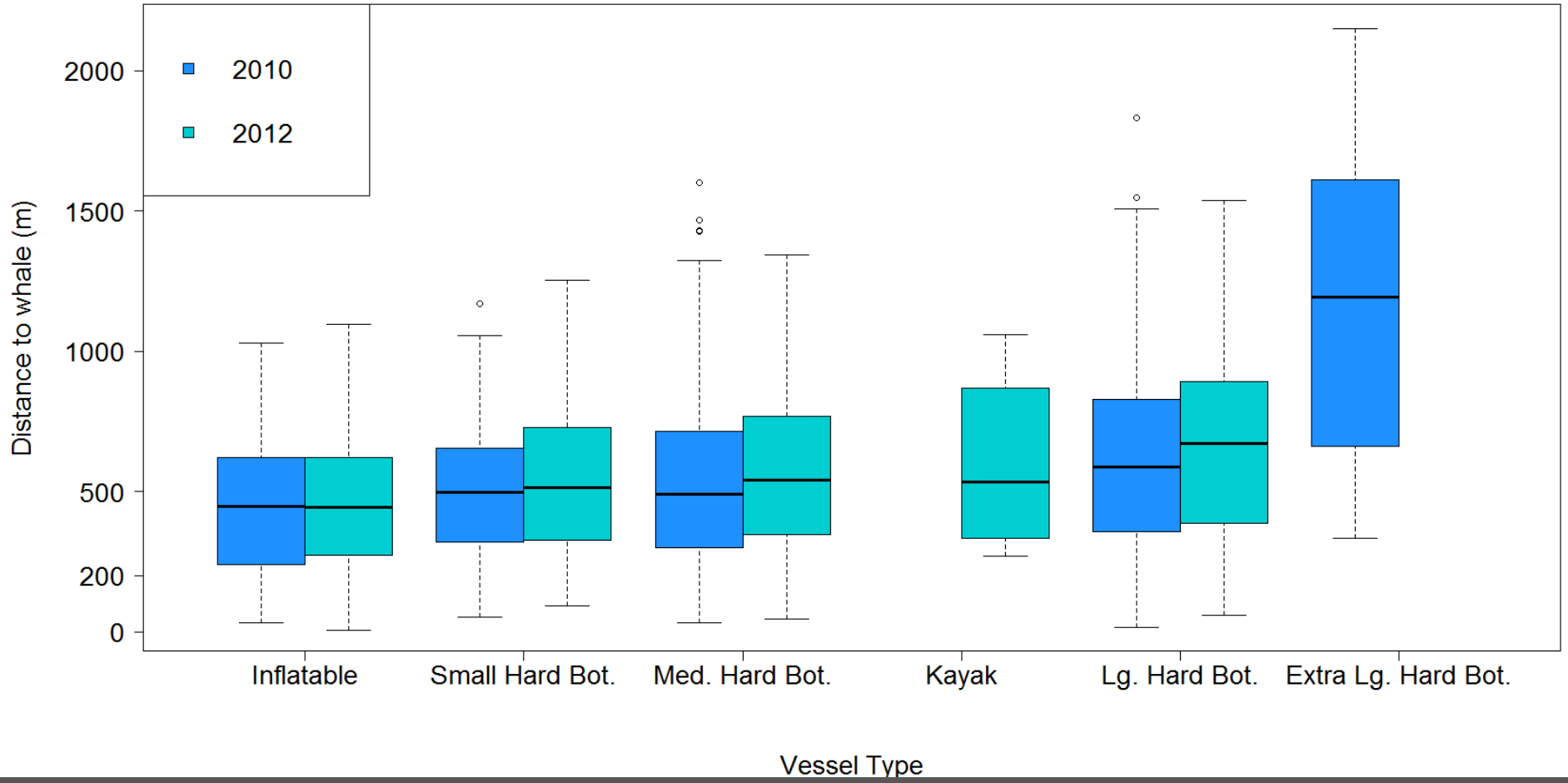
(Excluding research vessels)



COMPARISON: Sept. 2010 to Sept. 2012
DISTANCE TO TAGGED WHALE BY VESSEL CLASS



COMPARISON: Sept. 2010 to Sept. 2012
DISTANCE TO TAGGED WHALE BY VESSEL TYPE
(Excluding research vessels)



Thank you!

Research collaborators:

- Marla Holt, Candi Emmons, Brad Hanson, Dawn Noren, NOAA/ Northwest Fisheries Science Center (NWFSC)
- Deborah Giles, UC Davis
- Jeff Hogan, Killer Whale Tales
- Robin Baird, Cascadia Research Collective
- Glenn VanBlaricom, Trevor Branch, University of Washington
- Woods Hole Oceanographic Institute

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All photos taken by NWFSC with NOAA permit unless otherwise noted

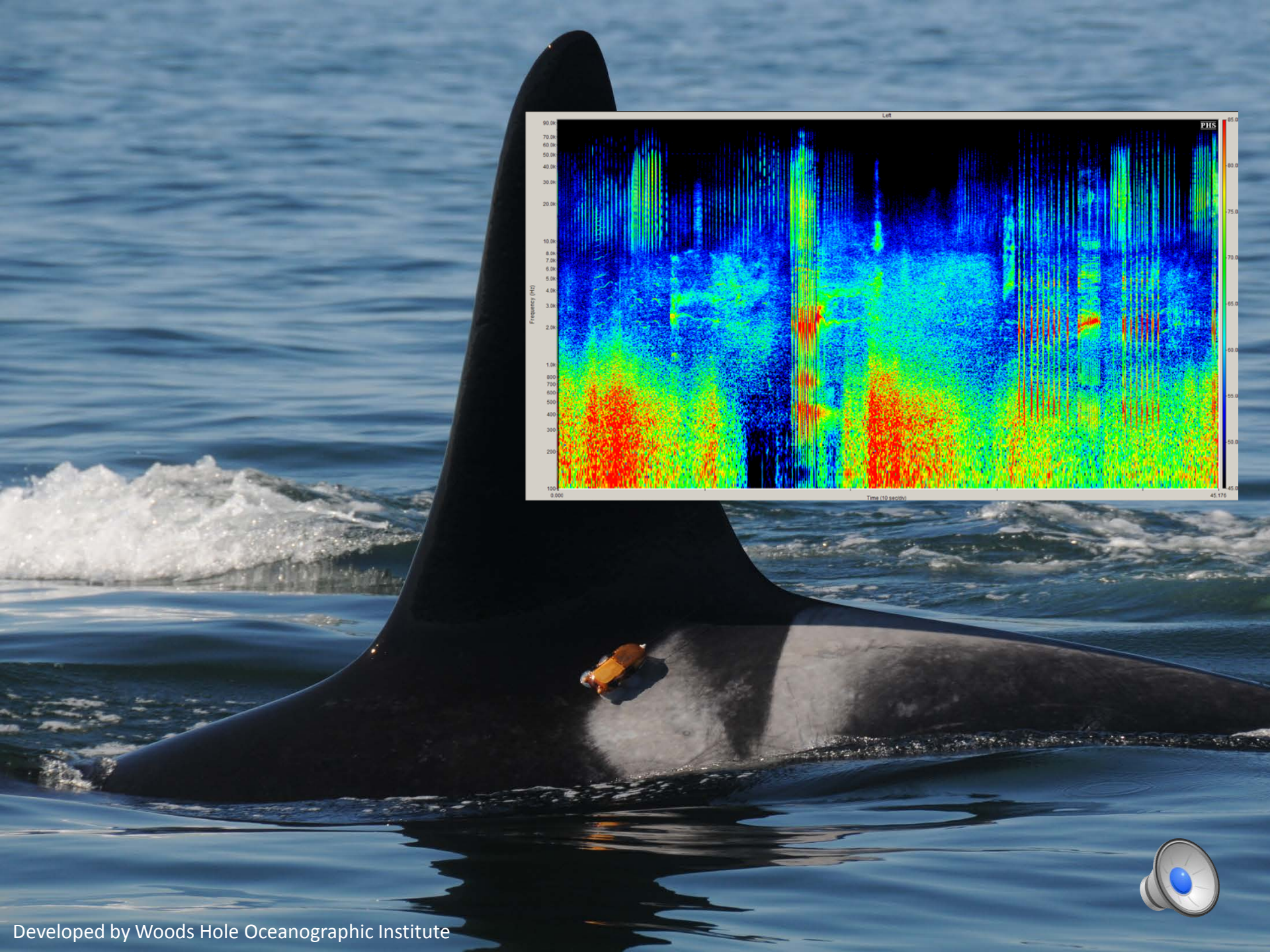
Metabolic costs of sound production in bottlenose dolphins (*Tursiops truncatus*)

MM Holt, DP Noren, RC Dunkin (UCSC), TM Williams (UCSC)
Funding: ONR and NOAA NMFS NWFSC

Study Objectives:

- Determine metabolic rates during sound production
- Measure metabolic costs of sound production relative to resting values
- Determine if changes in vocal performance affects metabolic rates, implications for vocal responses to noise (e.g., Lombard Effect)

Video of DTAG being placed on L84 - KUOW article:
http://earthfix.opb.org/flora-and-fauna/article/unlocking-the-secrets-and-sounds-of-orcas-underwat/



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