



*J. CETACEAN RES. MANAGE.* 20: 27–66, 2019

# Best practice guidelines for cetacean tagging

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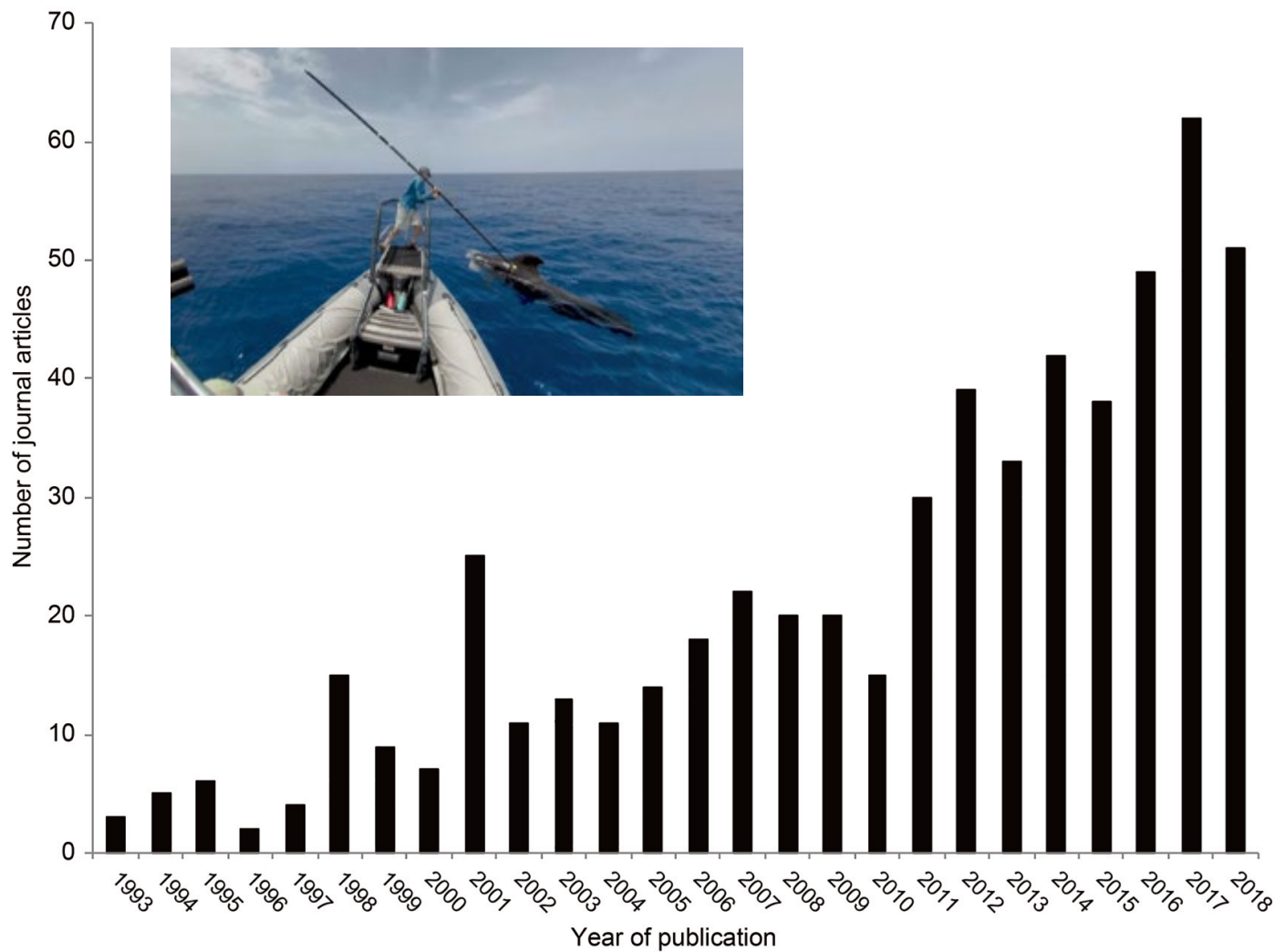
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*NARW Tagging Workshop, 12-14 September 2023*

# Cetacean Tagging Journal Articles 1993 - 2018



# Guidelines Objective

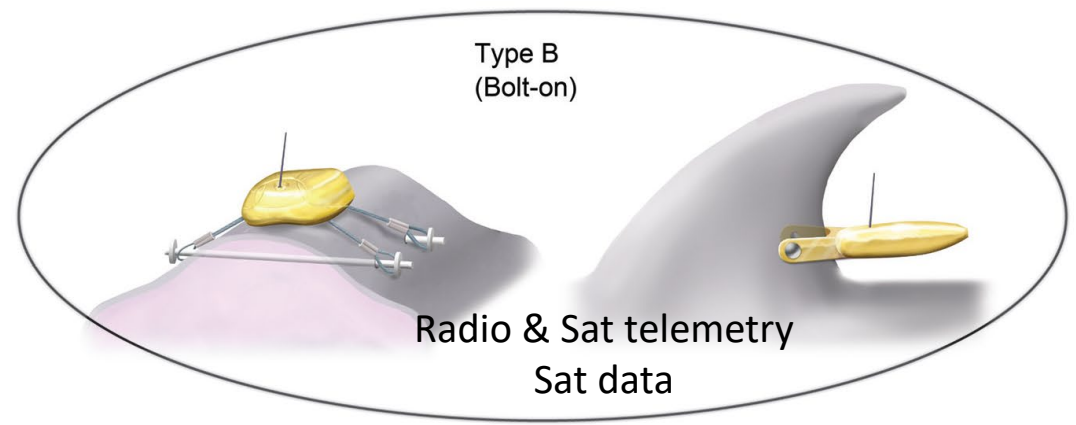
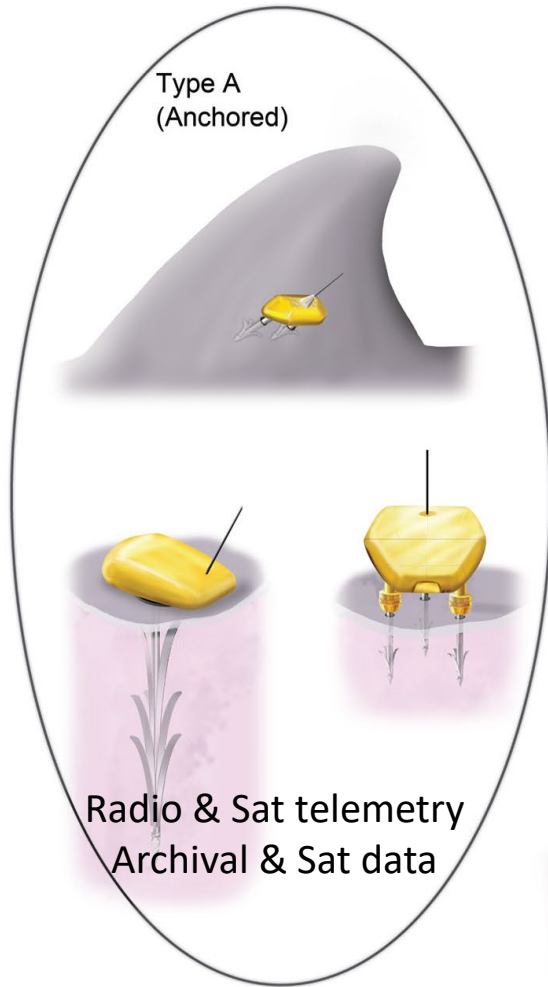
Provide a summary of:

- key topics to consider before tagging cetaceans
- best practice recommendations based on the experience of the authors and literature reviews

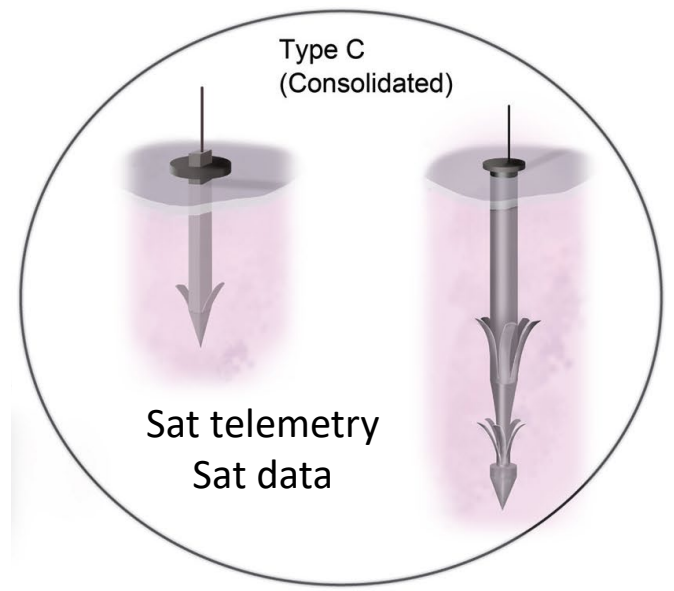
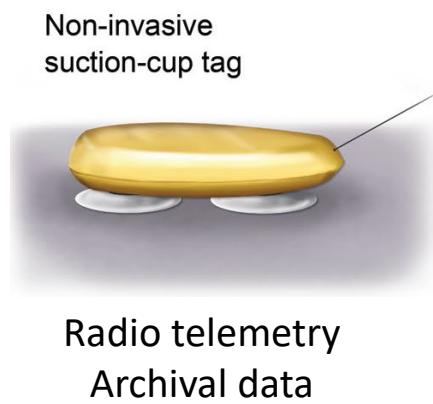


# Cetacean Tag Types

Radio vs Satellite telemetry tags (vs Acoustic)  
 Archival vs Satellite data transmission



10 cm





## 2. Key Topics and Recommendations

- 2.1 Ethical and legal considerations
- 2.2 Tag design and deployment
- 2.3 Boat approach for tagging free-swimming cetaceans
- 2.4 Capture-release and tagging restrained animals
- 2.5 Training / qualifications of personnel
- 2.6 Selection of candidates for tagging
- 2.7 Assessing effects with follow-up studies
- 2.8 Reporting and data sharing





# Tagging Study Decision Process

## Initial Considerations:

1. Clearly specify the short- and long-term objectives
2. Are there existing tag data that can be used to meet objectives?
3. Compare overall benefits vs. costs (multiple factors including population status)
  - e.g., risk to individuals vs. benefits to population
4. Likelihood of success?
  - encounter rates in project area
  - tagging success and data recovery for target and similar species
5. Is tagging the most appropriate approach?

## Practicalities:

1. Tag options
  - select a tag that will best provide the data needed
  - tag should be of reasonable size, shape and attachment design, with appropriate sensors
2. Deployment options
3. Location/study site
4. Timing (e.g., season)
5. Sample size
6. Candidates – age, sex, health, etc.; relate to objectives
7. Tagging protocols to minimize disturbance and maximize success
  - e.g., establish *a priori* criteria for tag/no-tag field assessment of individuals
8. Recruit team members with tagging experience
9. Design follow-up studies of 'effects' to inform future work

## Phased and iterative approach:

1. Pilot project if warranted
2. Review results
3. New/revised priorities & approach
4. Conduct further tagging if needed, with refinement informed by initial results
5. *Stop* when sufficient data have been collected and objectives have been met



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# FY10 National Oceanographic Partnership Program BAA



## Topic 1. Improving Attachments of Electronic Data Loggers to Cetaceans

**1A.** Determining Causes of Tag Attachment Success and/or Failure

**1B.** Case Studies to Determine the Short- and Long-term Physical, Physiological, and Behavioral Effects of Tags on Animals



# Example of Scoring System to Characterize Tag Site Features using Pictures

| <u>Feature</u>      | <u>Description</u>                           | <u>Score</u> |
|---------------------|--|--------------|
| Swelling            | No visible swelling                          | 0            |
|                     | Localised, focal, under 30cm diameter        | 1            |
|                     | Regional, focal, over 30cm diameter          | 2            |
|                     | Irregular size and shape, over 30cm diameter | 3            |
| Skin loss           | No visible skin loss                         | 0            |
|                     | Up to 1 cm greater than tag diameter         | 1            |
|                     | Up to 3 times tag diameter                   | 2            |
|                     | Larger than 3 times tag diameter             | 3            |
| Exudate             | No visible exudate                           | 0            |
|                     | Clear  | 1            |
|                     | Blood  | 2            |
|                     | Purulent                                     | 3            |
| Tissue extrusion    | No visible tissue extrusion                  | 0            |
|                     | Fresh tissue                                 | 1            |
|                     | Necrotic tissue                              | 2            |
| Pigmentation change | Normal pigmentation                          | 0            |
|                     | Change in color of skin around tag site      | 1            |
| And more            |  |              |

# Summary

- Guidelines serve as a resource to assist tag users, veterinarians, ethics committees and regulatory agency staff
  - in the implementation of high standards of practice
  - promote the training of specialists in this area
  - provide standardized terminology & protocols for tag testing and deployment
- Recommendations emphasize:
  - tagging should be ethically and scientifically justified
- Recommendations are provided for:
  - for minimizing effects on individual animals
  - improving knowledge of tagging effects thru follow-up studies

