



Mitigation of Cumulative Effects on Hawaiian Spinner Dolphins Through Collaborative Management



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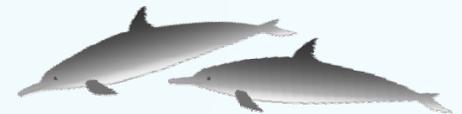
Spinner Dolphin Tourism

- “....viewing whales and dolphins in their natural habitat has grown rapidly over the past decade into a billion dollar (\$US) industry involving over 80 countries and territories and over 9 million participants (Hoyt 2001)”
- Increased demand for close human interaction in main Hawaiian Islands
- National Marine Fisheries Service (NMFS) concerned that types and frequency of human-dolphin interactions may negatively impact individual dolphins and the population
- This is not responsible wildlife viewing



Impacts on Spinner Dolphins

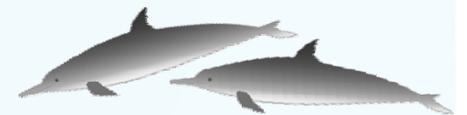
- Rest delayed and compressed due to the presence of swimmers off Makua Beach, Oahu (Danil *et al.*, 2005)
- Resting dolphins easily disturbed by approaching swimmers and boats in Hulopoe Bay, Lanai (Driscoll-Lind and Östman-Lind, 1999) and Kealakekua Bay, Hawaii (Würsig, 1996)
- Likely that in some areas, humans would try to approach and interact with schools of spinner dolphins during most of their resting period (Driscoll-Lind and Östman-Lind, 1999; Courbis, 2004)
- Human interactions can compromise foraging efficiency and reduce energy for growth and reproduction
- Significant decline in abundance where bottlenose dolphin watching tours increased from one to two operations per day (Bejder *et al.*, 2006)





Heightened Public Interest

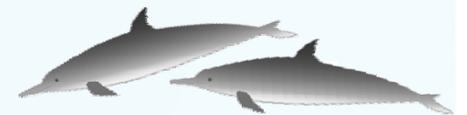
- >5,000 public comments
 - 34 States
 - 17 Foreign Countries
- Advanced Notice of Proposed Rulemaking
 - Published in Federal Register December 12, 2005 (70 FR 73426)
- Notice of Intent to Prepare EIS
 - Published in Federal Register October 2, 2006 (71 FR 57923)





Challenges for Management

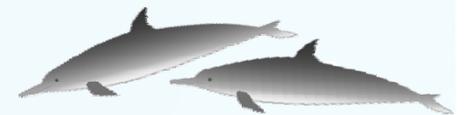
- **Enforcement**
 - Burden of Proof (has there been a "take"?)
 - Lack of manpower (how to prioritize?)
- **Environmental**
 - Dolphins can be hard to track
 - Can we actually close areas off?
 - Are closures effective?
- **Economic**
 - Monitoring and enforcement requires funding





Initial Concepts for Rulemaking

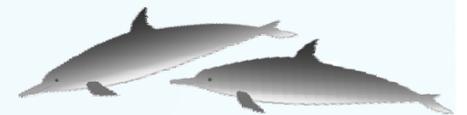
- Codify current guidelines into regulations
- Video monitoring
 - Cost prohibitive/ vandalism
- Permit System
 - Exemptions (i.e., emergency transport, fishing, etc.) may cause challenges
- Restrictions by User Type
 - How to define (i.e., can a kayaker use a bay, but not a swimmer?)





Lessons Learned from Other Studies

- Regulations to protect wildlife subject to nature-based tourism should be:
 - easily comprehended by tourist operations
 - realistic in the field
 - easily enforceable
 - (Scarpaci et al 2004)





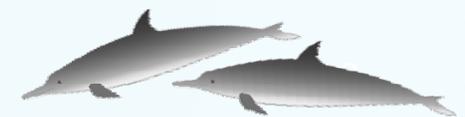
Preferred Alternative

- Time-Area Closures in Selected Bays
 - Areas to be delineated by buoys or by land-based sightlines
 - Likely closure times TBD (7AM to 3PM)
 - May implement 24/7 KAPU zone encompassing dolphins' preferred sandy-bottom resting habitat in Kealakekua Bay
 - Allows exemptions for boater safety, e.g. safe harbor during storms, and possibly for cultural practices



NMFS' Approach

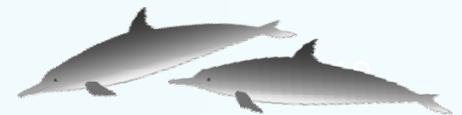
- Collaboration
- Partnerships
- Outreach





Partnerships

- State of Hawaii DLNR formal cooperating agency
- Joint enforcement agreement (JEA) with State of Hawaii
- Established partnerships to begin outreach/education and monitoring efforts.
 - Kama'aina United to Protect the 'Aina (KUPA),
 - Sea Grant,
 - Kilauea Point National Wildlife Refuge,
 - Kayak Alliance of the Islands (KAI),
 - Hawaii Wildlife Fund,
 - Kula Nai 'a Wild Dolphin Research Foundation



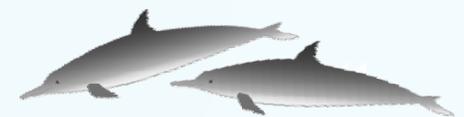


Collaboration

- Community Meetings
 - Makai Watch,
 - Community Conservation Network,
 - Dolphin Quest,
 - Keoua Honaunau Canoe Club,
 - Coral Reef Alliance,
 - Kayak Alliance of the Islands
- Agency Meetings
 - Met with DLNR rangers and DOCARE staff (Maui)
- Tour Operators
 - Met with tour operators and DAR staff (Waianae Coast)



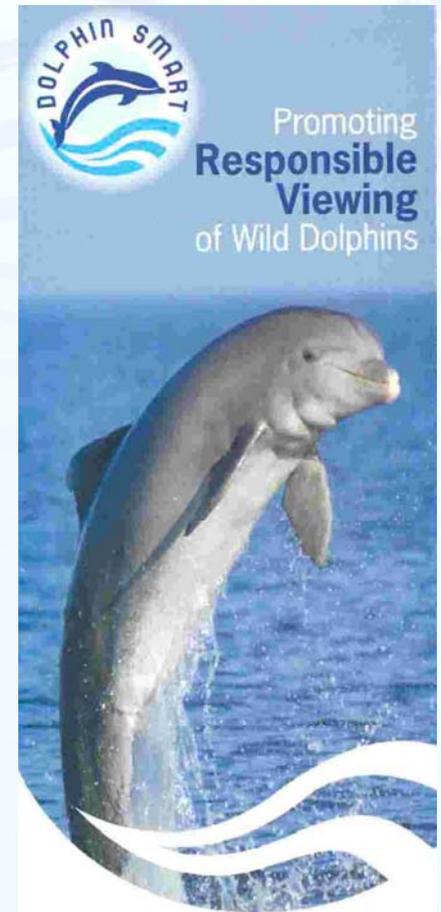
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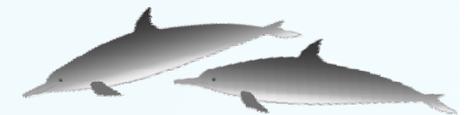


Dolphin SMART Program in Hawaii

- “Code of Conduct” developed in Florida Keys National Marine Sanctuary for tour operators
- Businesses can advertise they are “eco-friendly” and compliant with MMPA/NOAA recommendations
- Tour boats get Dolphin SMART flag to fly and annually-renewed sticker certifying compliance
- Partnership with NOS/Sanctuaries and NGOs to implement the program to coincide with publication of new regulations



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Questions?



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