



# Mitigation of Cumulative Effects on Hawaiian Spinner Dolphins Through Collaborative Management



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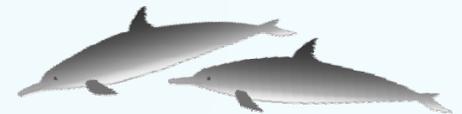
# Spinner Dolphin Tourism

- “....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

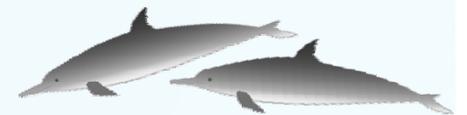
- Rest delayed and compressed due to the presence of swimmers off Makua Beach, Oahu (Danil *et al.*, 2005)
- Resting dolphins easily disturbed by approaching swimmers and boats in Hulopoe Bay, Lanai (Driscoll-Lind and Östman-Lind, 1999) and Kealahou Bay, Hawaii (Würsig, 1996)
- Likely that in some areas, 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

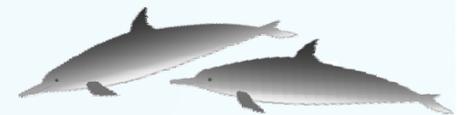
- >5,000 public comments
  - 34 States
  - 17 Foreign Countries
- Advanced Notice of Proposed Rulemaking
  - Published in Federal Register December 12, 2005 (70 FR 73426)
- Notice of Intent to Prepare EIS
  - Published in Federal Register October 2, 2006 (71 FR 57923)





# Challenges for Management

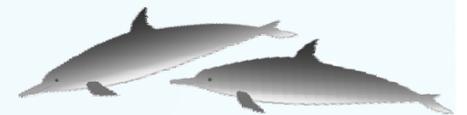
- **Enforcement**
  - Burden of Proof (has there been a "take"?)
  - Lack of manpower (how to prioritize?)
- **Environmental**
  - Dolphins can be hard to track
  - Can we actually close areas off?
  - Are closures effective?
- **Economic**
  - Monitoring and enforcement requires funding





# 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?)



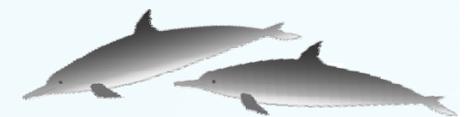


# Lessons Learned from Other Studies

- 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)



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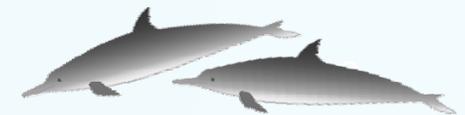
# Preferred Alternative

- 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

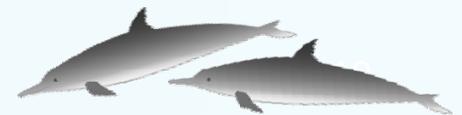
- Collaboration
- Partnerships
- Outreach





# 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

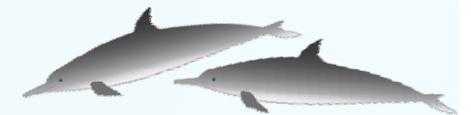
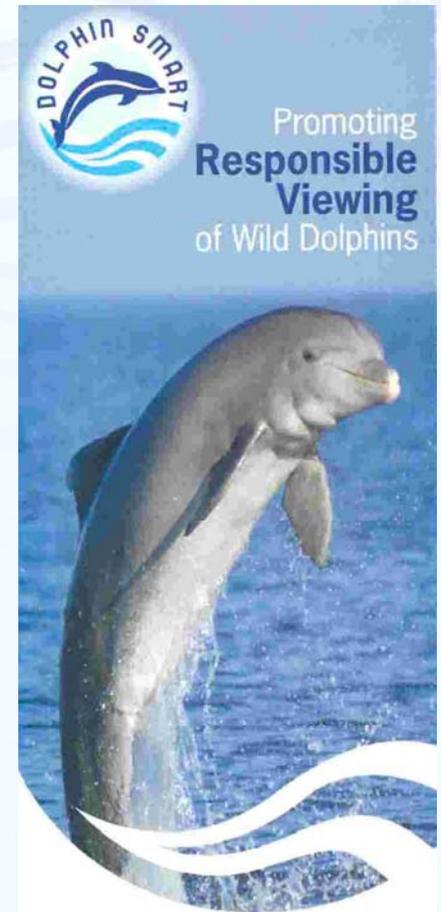
- Community Meetings
  - Makai Watch,
  - Community Conservation Network,
  - Dolphin Quest,
  - Keoua Honaunau Canoe Club,
  - Coral Reef Alliance,
  - Kayak Alliance of the Islands
- Agency Meetings
  - Met with DLNR rangers and DOCARE staff (Maui)
- Tour Operators
  - Met with tour operators and DAR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





# Dolphin SMART Program in Hawaii

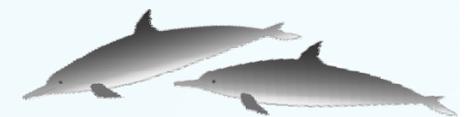
- “Code of Conduct” developed in Florida Keys National Marine Sanctuary for tour operators
- Businesses can advertise they are “eco-friendly” and compliant with MMPA/NOAA recommendations
- Tour boats get Dolphin SMART flag to fly and annually-renewed sticker certifying compliance
- Partnership with NOS/Sanctuaries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





# What Are the Next Steps?

- Continue Working with Community Volunteers
  - Provide training, equipment, and develop outreach materials in partnership with community members
- Work with Hawaii Tourism Authority
  - Outreach efforts: develop media presentations, PSAs, to educate visitors
- Meet with State of Hawaii
  - Clarify their role in implementation
  - e.g., MPAs, buoy installation and maintenance, DOCARE's role in enforcement





# Questions?



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