Incidental Catch of Non-target Fish Species and Sea Turtles: Comparing Hawaii’s pelagic longline fishery against others.

- **PFRP Project**: start date, January 2002.

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• Responsible fishing and responsible consumption by the market should be linked to promote sustainable fisheries.

• The market is an inseparable part of the fisheries management equation.
Need and Purpose

- A practical means of comparing fisheries and their products in terms of managing bycatch of non-target fish and incidental catch of protected species is needed........
- to make informed market and management decisions.
Transferred Environmental Effects

- Environmental impacts associated with fisheries products are not lost as they move through the global seafood production and marketing system.

- Transferred environmental effects can be thought of as “environmental baggage”.

- Should be considered in the assessment of cumulative environmental effects.
Examples of Transferred Environmental Effects

• Ex. dolphin mortalities associated with some sources of purse seine-caught tuna.

• Ex. sea turtle mortalities associated with some sources of trawl-caught shrimp.

• Ex. sea turtle mortalities associated with swordfish imported from coastal longline fisheries.
Pelagic Longline Fishing

- Mixed message and generalizations. Environment-friendly or destructive Selective or indiscriminant

- Not a homogeneous method. Environmental effects vary greatly with Specific fishing and marketing practices

- Assessment requires “splitting” (not lumping).
Bycatch Index

- A bycatch index is needed to estimate transferred environmental effects.

- To estimate cumulative effects of management actions.

- Ex. sea turtle takes / 1,000 tons of Costa Rican longline-caught swordfish
Project Objectives

• Apply methodology patterned after Hall (1999) for quantifying bycatch of non-target fish species and the incidental catch of sea turtles in Hawaii’s multi-species pelagic longline fishery.

Project Objectives

• Summarize pertinent details of Hawaii pelagic longlining practices.

• Characterize the Hawaii pelagic longline fleet in terms of non-target fish bycatch and sea turtle incidental catch.
Project Objectives

- Develop a bycatch index to express bycatch and incidental catch as a function of the catch of main target species (yellowfin, bigeye, swordfish).
Project Objectives

• Attempt to conduct same analysis on the same market species from representative pelagic longline fisheries.

• Ex. sashimi tuna longlining in Micronesia, swordfish longlining in Costa Rica.
Project Objectives

- Compare the bycatch indices and transferred environmental impacts associated with target species from these different fleets and fisheries.

- Estimate the environmental “cost” of management actions that promote market substitution.