

# Inspiring Innovation by Capitalizing Creativity



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*for a living planet*®

# Bycatch: A Critical Threat To Marine Biodiversity



# Bycatch is largely avoidable



# “Smarter,” more selective fishing



Circle Hooks



TEDs



Sonar pingers



**SMART**  
THE INTERNATIONAL



**GEAR**  
COMPETITION

To inspire innovative, practical, cost-effective ideas that allow fishermen to fish “smarter” – to better target their intended catch while reducing bycatch.

Open to all: fishermen, professional gear manufacturers, teachers, students, engineers, scientists and backyard inventors.

2005: 50 entries from 16 countries

2006: 83 entries from 26 countries

2007: 70 entries from 22 countries

2009: 71 entries from 27 countries

2011: 74 entries from 31 countries



**What's your innovative  
idea for reducing bycatch?**

**\$30,000 Grand Prize**

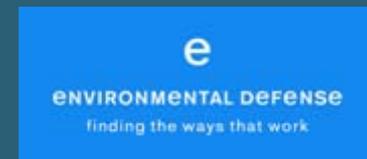
**Two \$10,000 Runner-Up Prizes**

**\$7,500 Special Tuna Bycatch Reduction Prize**

**Entry deadline is August 31, 2011**

**Visit [smartgear.org](http://smartgear.org) for rules and guidelines**

# Partners



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada





# 高雄市漁業文化館

Kaohsiung Museum of Fisheries Civilization

Welcome



2007 Judges Workshop

# Judging Criteria

Effectively reduces bycatch

Innovative

Practical

Cost-effective

Maintains target catch

Conservation impact

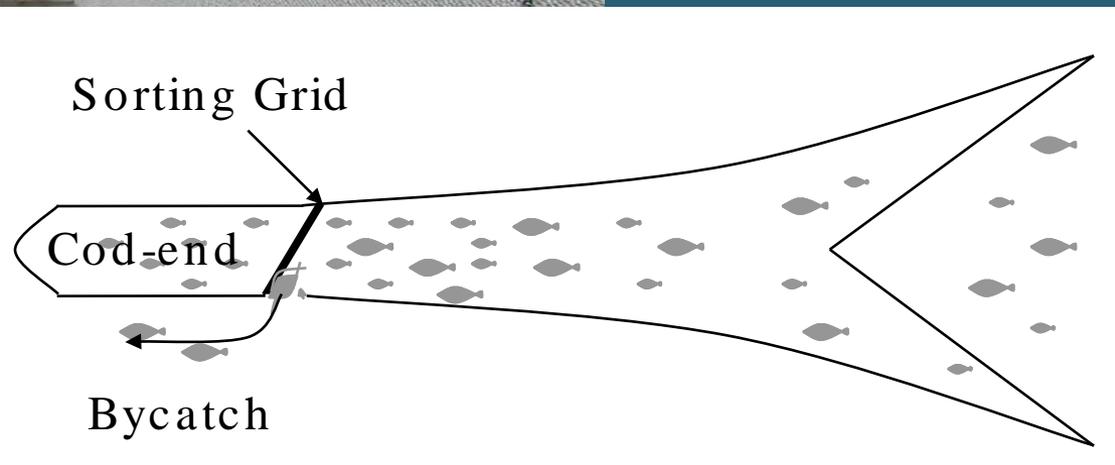
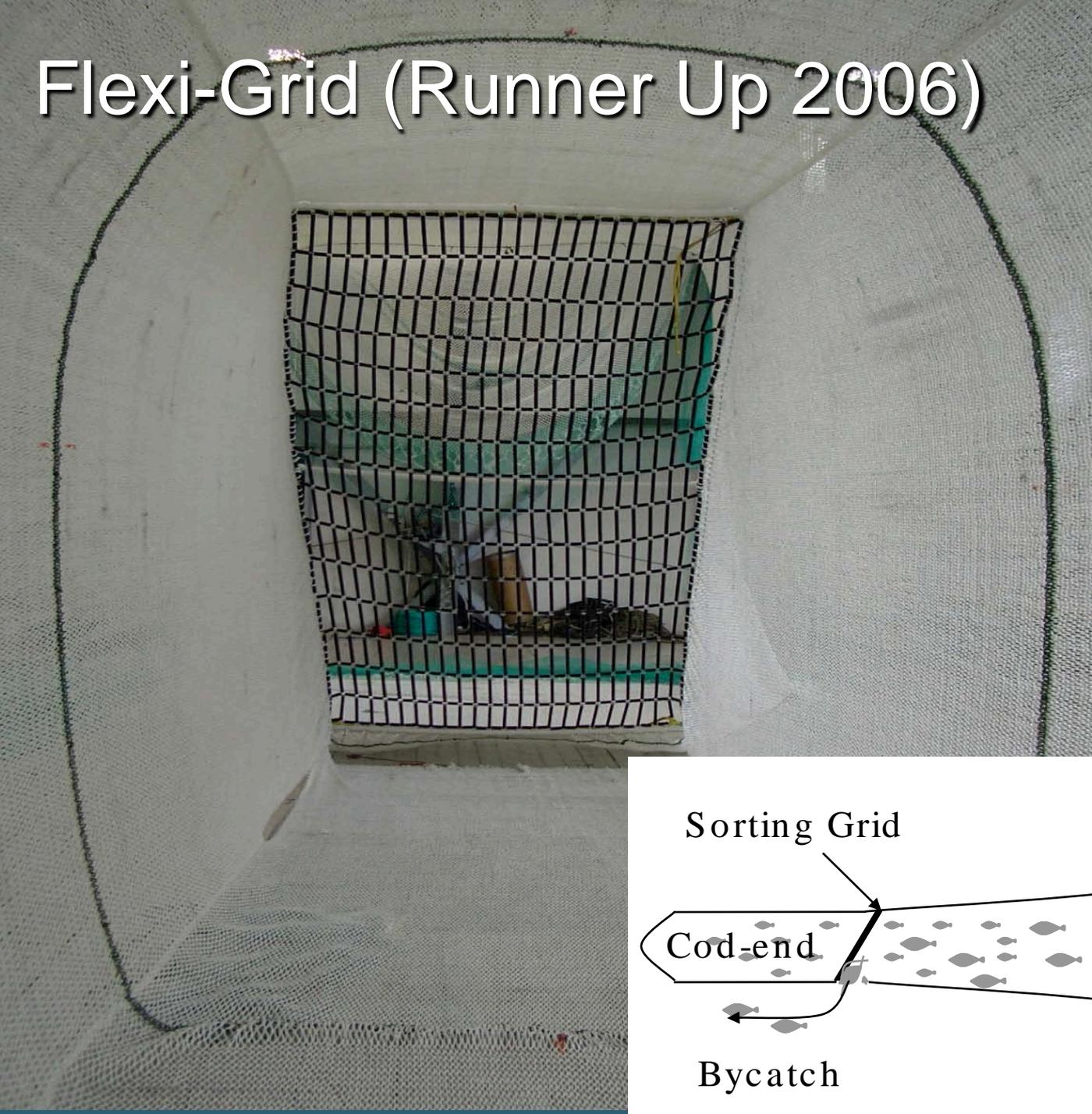


# Smart Gear Initiative

A large, yellowish fishing net is suspended from a boat, hanging over the water. The net is made of a fine mesh and is supported by a wooden frame. The boat is moving, as evidenced by the white wake in the water. The background shows a clear blue sky and the open sea.

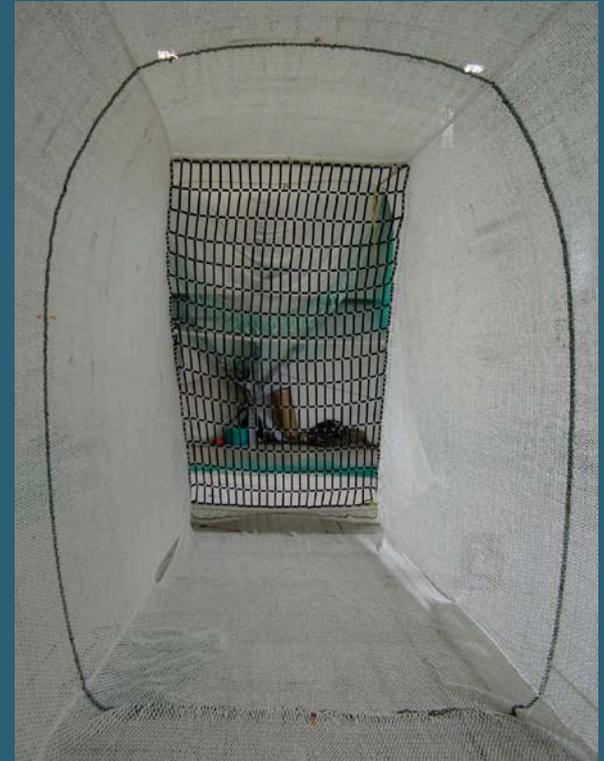
1. International Smart Gear Competition.
2. Advance winning ideas toward ultimate goal of commercial adoption.

# Flexi-Grid (Runner Up 2006)



# Advancing the Winning Ideas

- Trials: hake, flat fish, blue whiting fisheries
- Mandatory adoption by Faroese fleets. Now also being used by Russian, Norwegian, U.S. and Icelandic vessels.
- Interest in adaptation for purse seine vessels fishing tuna.
- Available in commercial retail on a global basis.



# The Flying Bottlebrush (Runner Up 2006)



# Advancing the Winning Ideas

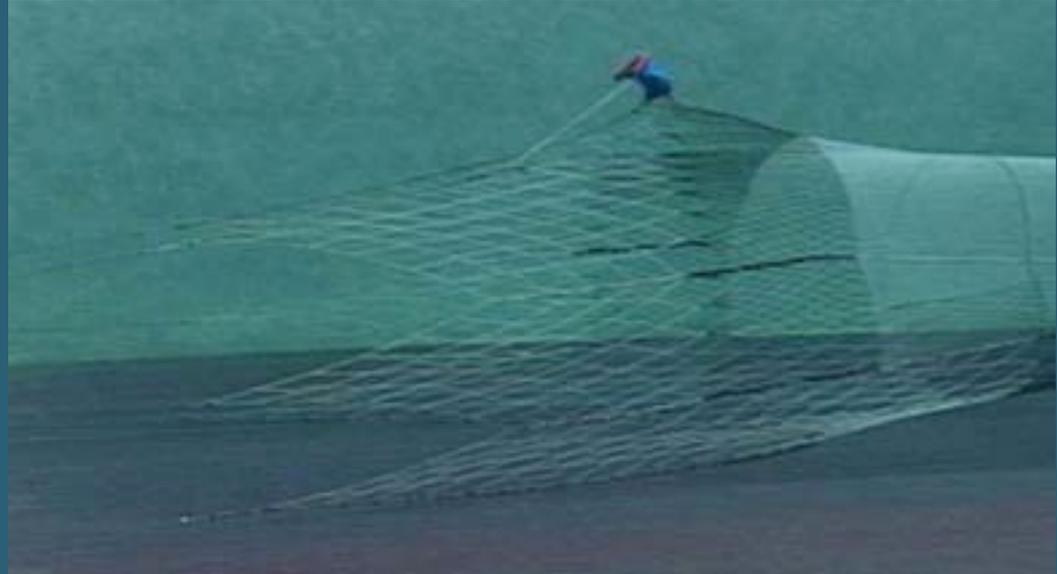
- WWF sponsored seabird mitigation workshop in New Zealand for industry, government, scientists, and NGO's from South Africa, Australia, New Zealand, U.S.A., and Argentina.
- Flying Bottle-Brush is now part of mandatory measures available to vessels in New Zealand.

# The Eliminator (Grand Prize 2007)

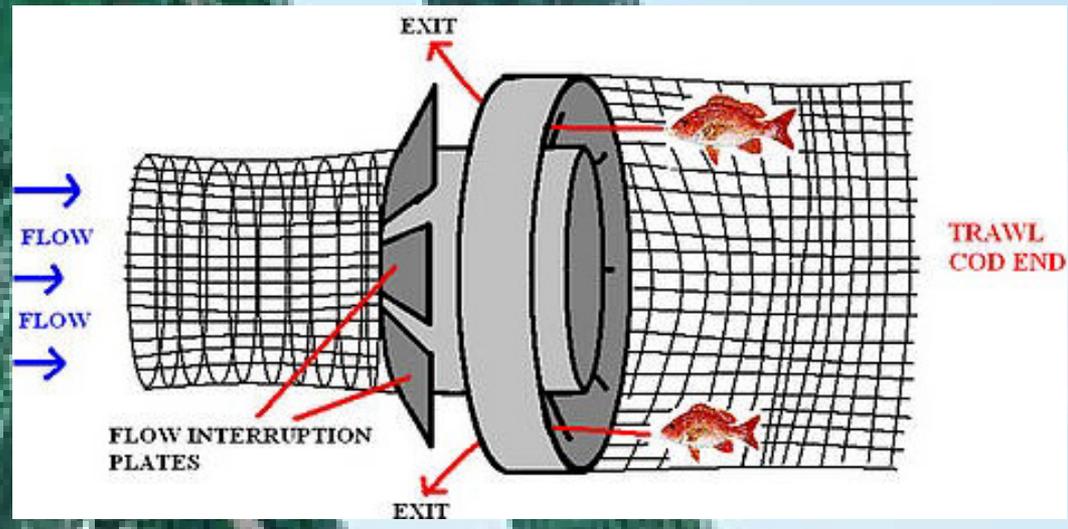
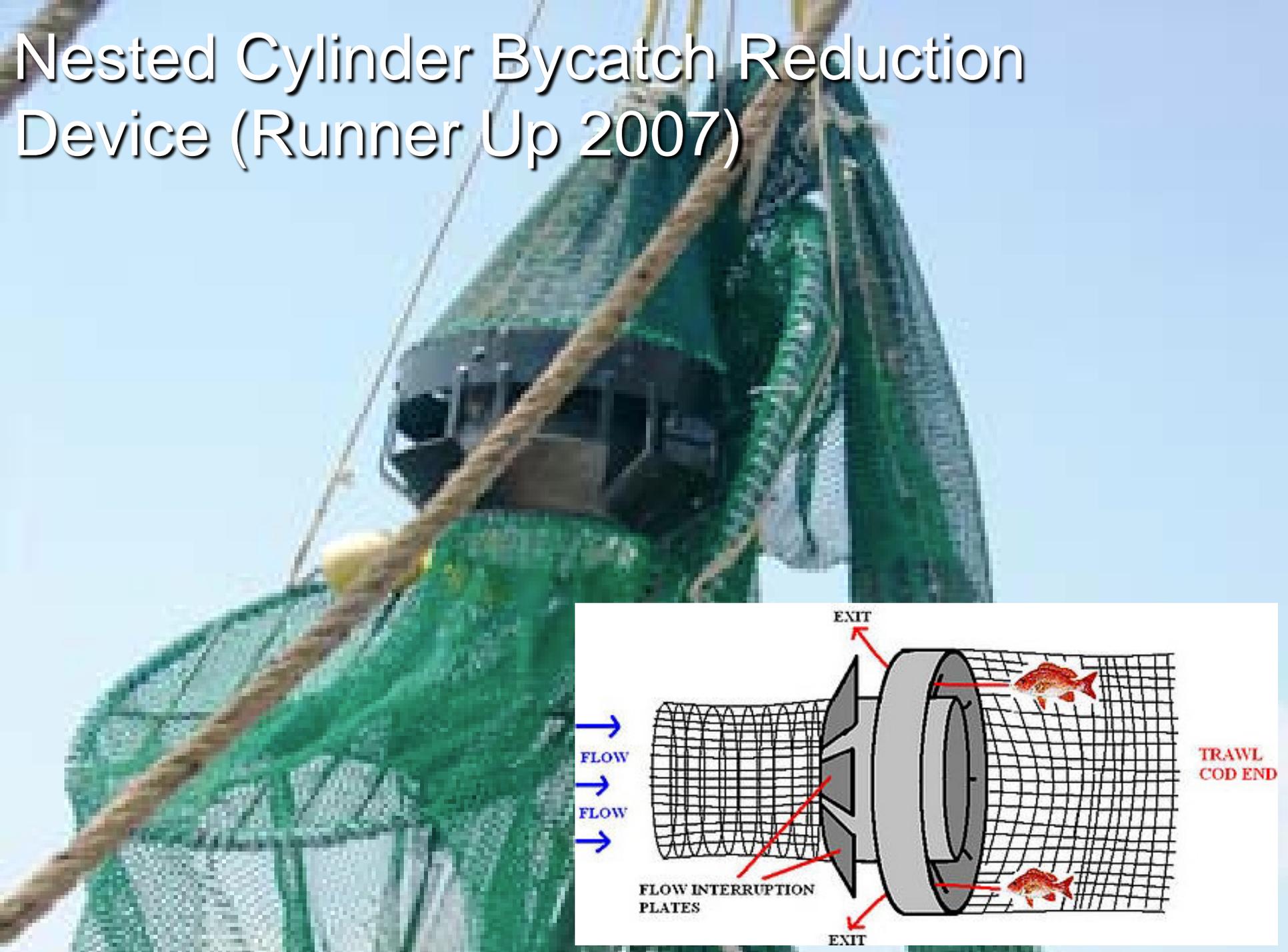


# Advancing the Winning Ideas

- All required trials completed. Fulfilled NOAA protocol for adoption.
- Regulated for commercial use in August 2008. More than 12 in use in eastern U.S. fisheries.
- Solved a difficult problem for mixed species fishery on the east coast.
- A modified version of the net is in use in the U.K. with the net being adapted for different bottom types.



# Nested Cylinder Bycatch Reduction Device (Runner Up 2007)



# Advancing the Winning Ideas

- Submitted to NOAA Fisheries for certification trials.
- Lot of commercial interest from fisheries in the Gulf region as well as along the east coast.
- Exploring other fisheries who could benefit from this device.



# The Underwater Bait Setter (Grand Prize 2009)



# Advancing the Winning Ideas

- Mechanical trials conducted in Jan/Feb 2010 off Australia
- Comparison trials undertaken off the coast of Uruguay in 2010.
- Device approved for use in longline vessels off the east coast of Australia.
- Introduced to industry in Iceland, Nov 2011. Additional trials in Uruguay 2012 to test faster capsule cycling advancement.



# Batwing Otter Board (Runner Up 2009)





# Advancing the Winning Ideas

- WWF providing funding to help develop and trial larger version of Batwing Otter Board
- David Sterling invited to present the device at the “Energy Use In Fisheries Symposium”, Seattle, November, 2010 .
- Commercial interest already developing in the board.
- Successful in securing large government grant in Australia for further development.

# Yamazaki Double-Weighted Branchline (Grand Prize 2011)



# Advancing the Winning Ideas

- ICAT has already adopted this as part of their seabird mitigation measures.
- Momentum to have it adopted by additional tRFMO's.
- ACAP and Birdlife Int'l were invited to discuss this device with representatives of the Taiwanese fleet, largest longline fleet in the world.

# The Seaqualizer (Runner Up 2011)



# Advancing the Winning Ideas

- Winners already have contracts for manufacturing and distribution.
- Potential for significant bycatch reduction in recreational fishing industry on both sides of the U.S.
- WWF will work with inventors to assess potential for overseas distribution.

# Turtle Lights for Gillnets (Runner Up 2011)



# Advancing the Winning Ideas

- WWF will work with winners to test idea on additional species of turtles where interactions with gillnets are an issue of concern.
- Examining potential to improve battery life in light sources.

# WWF's Next Steps

Interested parties

Funding for trials

Technical assistance from Smart Gear partners

Use by commercial fisheries





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**WWF**