Saving the World’s Most Endangered Marine Mammal: Role of Economic Incentives

North American Association of Fisheries Economists Forum 2017
La Paz, Baja California Sur
24 March 2017

Oriana Poindexter, Sarah Mesnick and Dales Squires – Southwest Fisheries Science Center, NOAA Fisheries
Rebecca Lent, U.S. Marine Mammal Commission; Enrique Sanjuro, WWF-MX
And all of you
Vaquita are small, naturally rare and slow to reproduce
Vaquita are exquisitely adapted to a unique & highly productive marine habitat.
The fate of vaquita has long been tied to the fate of the totoaba.


Dead totoaba in illegal gillnet. Sea Shepherd, 5 Feb 2016

Totoaba swim bladder for sale. Photo: Environmental Investigation Agency

Ca. $3000-$8000 kg on the beach
Ca. $10,000 - $20,000 a piece in China
Management actions and the decline of the vaquita
Vaquita are rapidly declining: extinction is imminent

CIRVA (International Recovery Team) Feb 2017:

• Half the remaining population was lost in the last year - despite ban, compensation and increased enforcement

• Rampant illegal fishing continues

• Given the dire situation, CIRVA recommends that some vaquita be put in temporary sanctuary until gillnets are removed

The situation is deteriorating: riots, boycotts and three more dead vaquita in the past couple of weeks; lack of governmental clarity on the continuation of the gillnet net ban
To save the vaquita, the science is clear: nets must go.
Economic incentives for vaquita conservation
Points of intervention and menu of incentives
(positive and negative incentives to complement command and control measures)

Direct Incentives

- Consumers/Markets
- Buyers/Exporters
- Fishing cooperatives (groups)
- Fishers (individuals)

Indirect Incentives

- Communities

See: Lent and Squires 2017
Menu of economic incentives for vaquita conservation

Direct Incentives

Economic instruments that can be used on either individual vessels or supply chain firms or cooperatives:
- Technological Change and Technology Standards
  - gear and vessel modification and development
  - training in new gears
- Markets and Prices
  - market access
  - supply chain standards and certification
  - value-added products
- Incentive Payments
  - payments for ecosystem services (ban/compensation)
- Taxes and Subsidies
  - taxes and subsidies on production
  - taxes and subsidies on consumption
- Property Rights and Credits
  - tradeable bycatch credits
  - tradeable property rights
  - bycatch quotas with penalties and rewards
- Other
  - buybacks (rent-out, switch out)
    - insurance and risk pools
    - trade and port measures
    - harvest priority programs
    - tournaments and prizes
    - voluntary approaches
    - assurance bonds
    - deposit-refund programs
    - biodiversity offsets

Policy instruments addressing the informational externality:
- Eco-labeling & standards on final & intermediate products
- Information programs

Indirect Incentives

Alternative livelihoods and community based conservation instruments:
- Sportfishing
- Aquaculture
  - finfish
  - shellfish
  - halophytes and algae
- Ecotourism
- Alternative Energy (wind, solar)
- Small business ventures

Intrinsic Incentives

- Training in business and leadership skills
- Education
- Retirement
- Land-tenure
- Increase awareness and pride in natural capital
  - public arts
  - public parks
  - biodiversity festivals
  - culinary events

See: Lent and Squires 2017
The Upper Gulf of CA: Demographics

San Felipe (ca. 16,000)
El Golfo de Santa Clara (ca. 2700)
Puerto Peñasco (ca. 31,000)

Main industries: fishing, tourism, aquaculture, agriculture
25 target fisheries (key are shrimp and curvina)

See: Cisneros-Montemayor and Vincent, 2016
What is the Role Economic Incentives in Vaquita Conservation?

Introduction: Mesnick, Sanjuro and Sainz

Presentations:
• Buybacks (Avila)
• Payments for Ecosystem Services (Sanjuro)
• Markets (Poindexter & Ramirez)
• Alternative Livelihoods (Mesnick)

Discussion

Barbara Taylor
Extra slides
Mexican fishery regulations mandate change to the new gear within three years (NOM-002-PESC-2013)
Bycatch: a global threat for marine mammals (also turtles, sharks... )
We ate our way into this problem. Can we eat our way out?