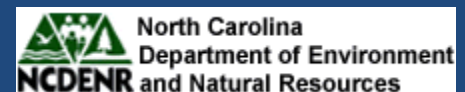


Status of Asian Tiger Shrimp, Ver. 11.'09

(*Penaeus monodon*)



James Morris, NOAA
Pam Fuller, USGS
Trish Murphy, NCDENR



They're ~~Back~~ Still Here? Here Again?

- 2006
 - Pamlico Sound, NC (5)
 - Mississippi Sound, Dauphin Island, AL (1)
- 2007
 - Pamlico Sound, NC (1)
 - St. Augustine, FL (1)
 - Vermilion Bay, LA (1)
 - Fripp Island, SC (1)



2008 – 14 *Penaeus monodon* reported

- NC – 8
- SC – 4
- AL – 1
- FL – 1



All specimens were found in September, October, November

2009 – 31 *Penaeus monodon* reported

- NC – 16
- SC – 8
- GA – 0
- FL – 0
- AL – 0
- MS – 3
- LA – 4



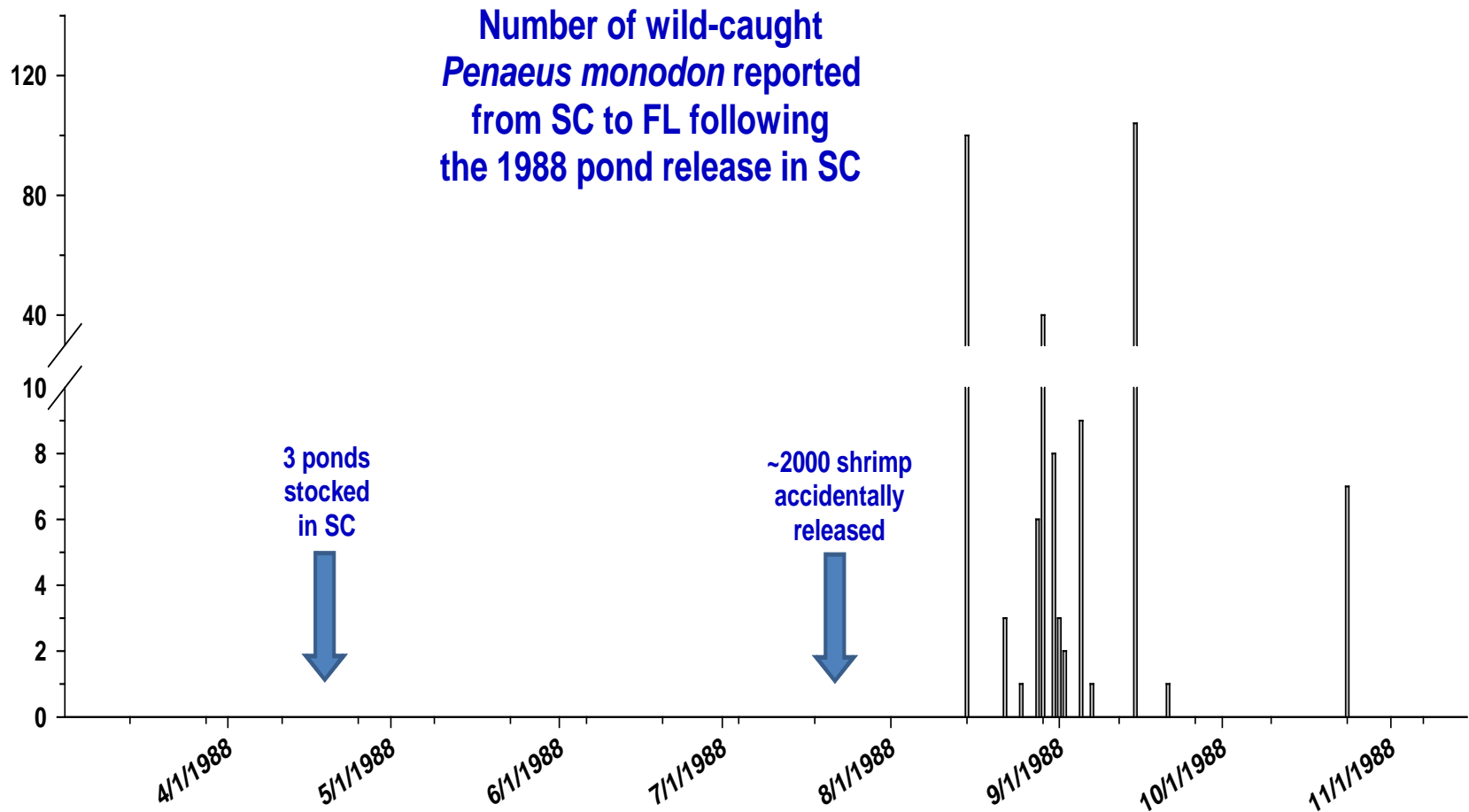
One LA specimen found in late August, others reported from mid-September through October

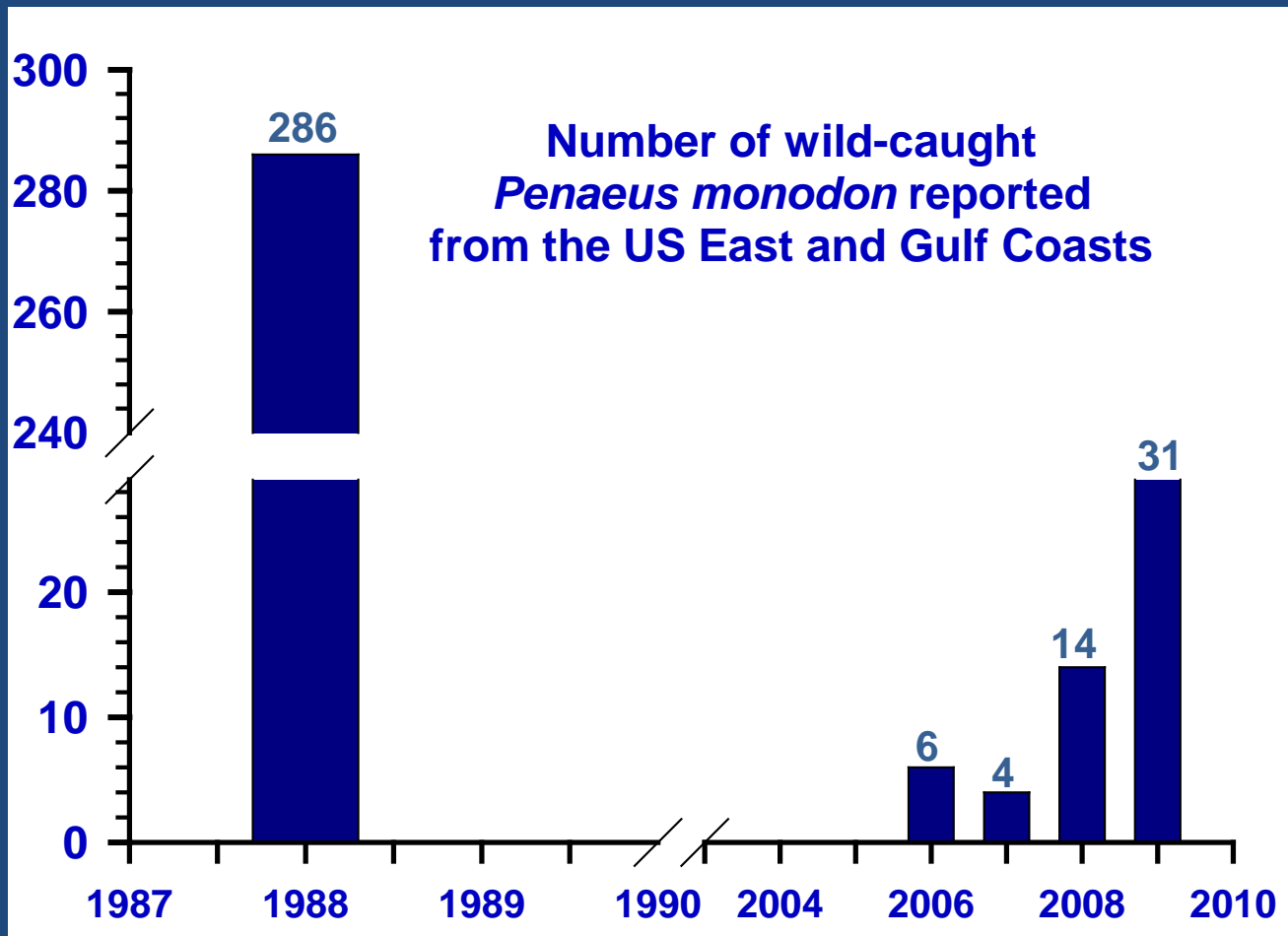
reports of *P. monodon* along the US coast 1988 through 10/30/2009



History

- ~2000 accidentally released in SC in July 1988
- collected in trawls from SC to FL for the next 3 months
- disappeared by Nov 1988, until reappearance in 2006





as of 10/30/2009

**Mean Total Length (mm) and Weight (g)
of measured specimens from 2006-2009 [n]**

	2006	2007	2008	2009	All Years
TL male	221 [1]	213 [2]	201 [3]	215 [9]	212 [15]
TL female	N/A	237 [1]	213 [3]	239 [3]	227 [7]
TL undet.	N/A	207 [1]	200 [1]	239 [3]	225 [5]
wt male	89 [1]	N/A	N/A	84 [5]	85 [6]
wt female	N/A	N/A	N/A	125 [3]	125 [3]
wt undet.	N/A	N/A	60 [1]	130 [3]	95 [2]

Juvenile ~ 6" TL



Penaeus monodon

- Age limits
- Size at sexual maturity
- Max size
- Spawning frequency
- Larval development



Photo by Robert Overton, GA Marine Ext Serv
from off St. Augustine, FL

Worldwide production of *Penaeus monodon*

	2002	2003	2004	2005	2006	2007
Metric tons via culture	632×10^3	724×10^3	708×10^3	665×10^3	637×10^3	590×10^3
Metric tons via capture	212×10^3	219×10^3	220×10^3	225×10^3	244×10^3	?
\$ via culture	$\$3.6 \times 10^9$	$\$3.4 \times 10^9$	$\$3.4 \times 10^9$	$\$3.1 \times 10^9$	$\$3.0 \times 10^9$	$\$2.9 \times 10^9$
\$ via capture	?	?	?	?	?	?

Source(s)?

- Established breeding populations along the US coast?
- Possible ballast transport and delivery?
- anecdotal evidence about escapement from Caribbean aquaculture operations



Penaeus monodon
culture ponds



December 5, 2006

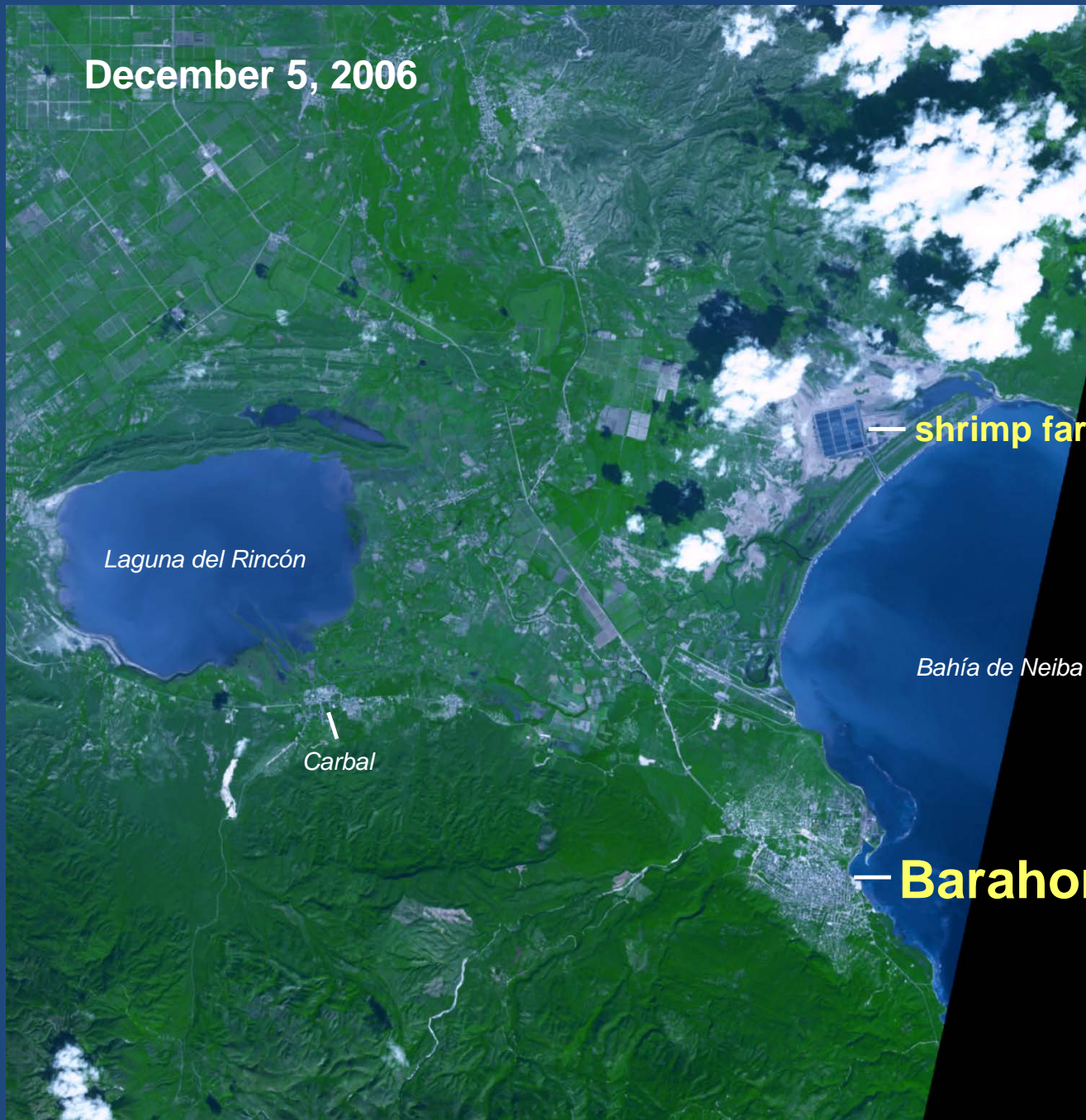
Laguna del Rincón

Carbal

— shrimp farm

Bahía de Neiba

— Barahona



Tropical Storm Noel

2007



November 6, 2007

flood / landslide —

— shrimp farm

Laguna del Rincón

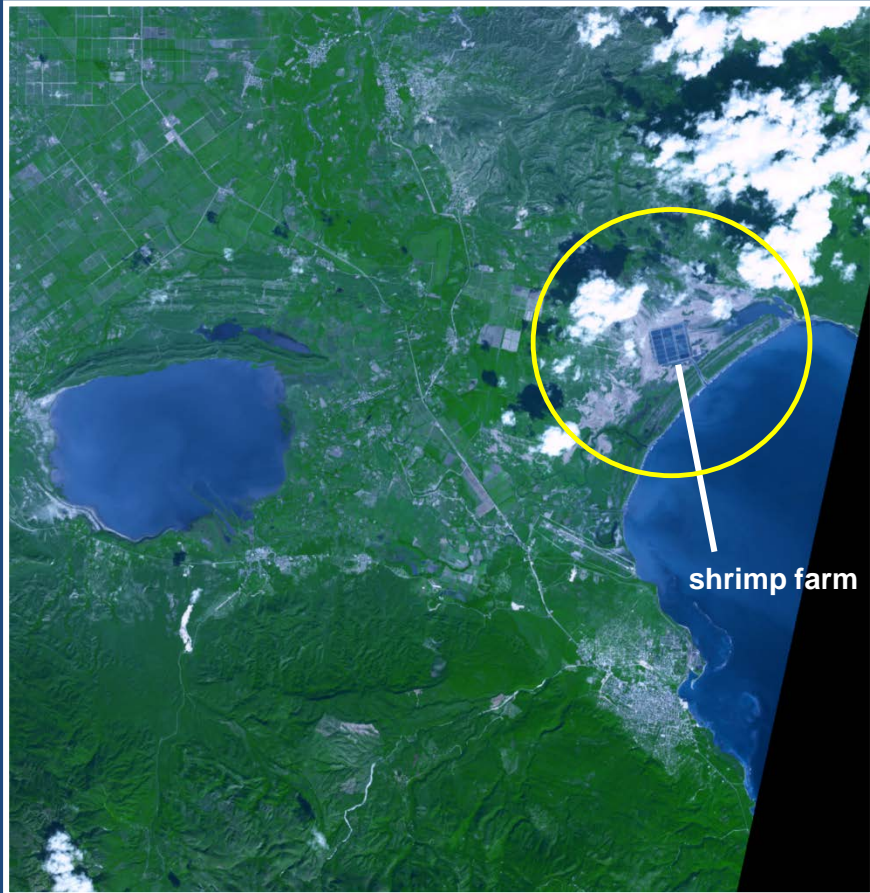
Bahía de Neiba

Carbal77

— ***Barahona***



1 year before Noel



1 week after Noel





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Image NASA

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2761 ft

Imagery Date: Jul 13, 2002

lat 18.307799° lon -71.090067° elev 9 ft

Eye alt 9559 ft