NEW YORK CITY
AUDUBON

Jamaica Bay monitoring update 2011

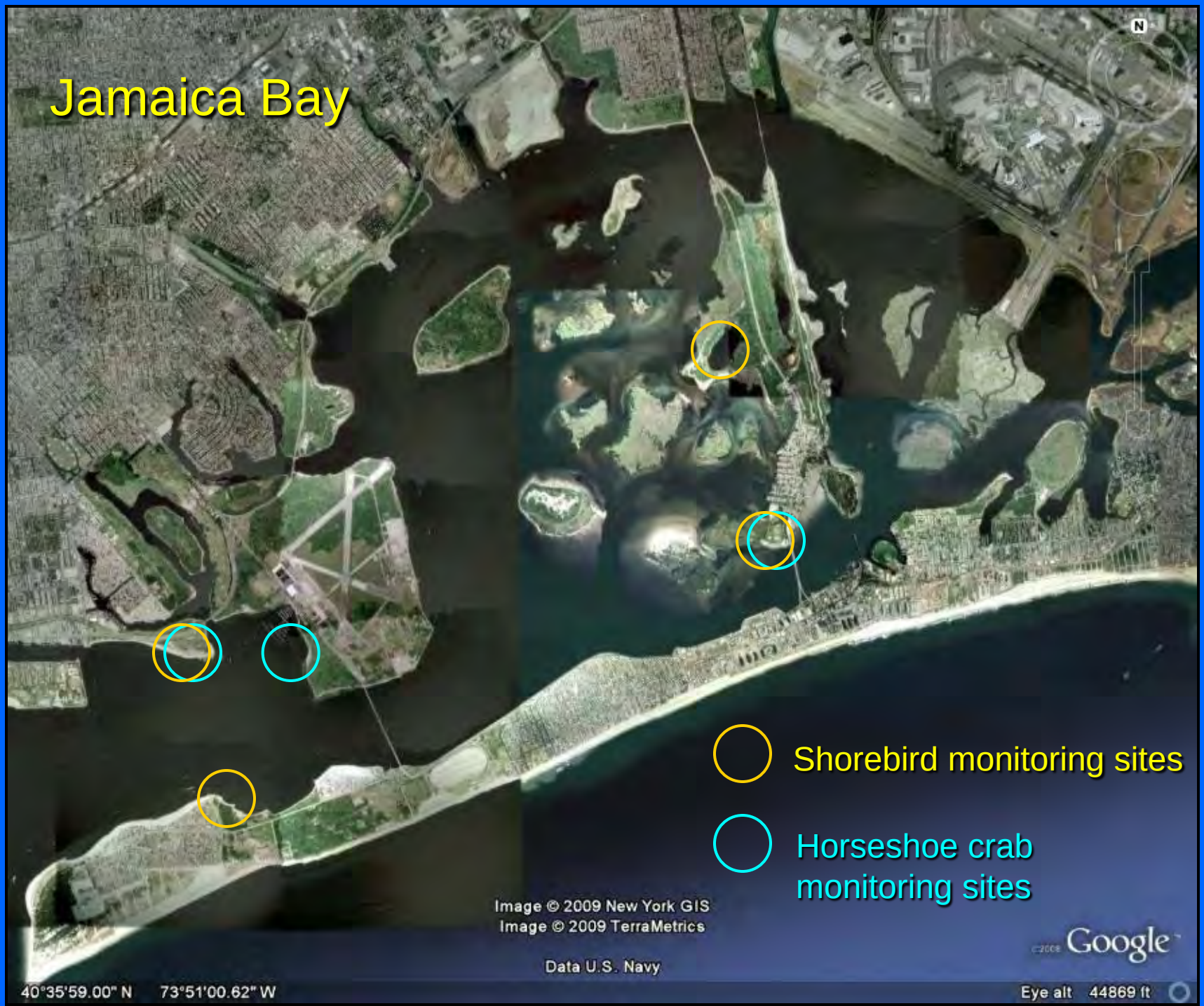
credit: Don Riepe

Shorebirds

credit: Robert Pos/USFWS

credit: Greg Breese/USFWS

Horseshoe crabs


Jamaica Bay
Shorebird monitoring sites
Horseshoe crab monitoring sites
Image © 2009 New York GIS
Image © 2009 TerraMetrics
Data U.S. Navy
Google
40°35'59.00" N 73°51'00.62" W
Eye alt 44869 ft

Shorebird monitoring

International Shorebird Survey (ISS)

Manomet Center for Conservation Sciences

Started in 1974

~ Weekly surveys

credit: Yigal Gelb

Shorebird monitoring

credit: Donna Dewhurst/USFWS

2011:
Sample visits: 48
Dates covered: April 10th – June 23rd
Total shorebirds counted: 6,162
Birds counted per sample visit: 128
Total species seen: 21
Most abundant species: Semi-palmated Sandpiper (2,157; 35% of total seen)

Summary:

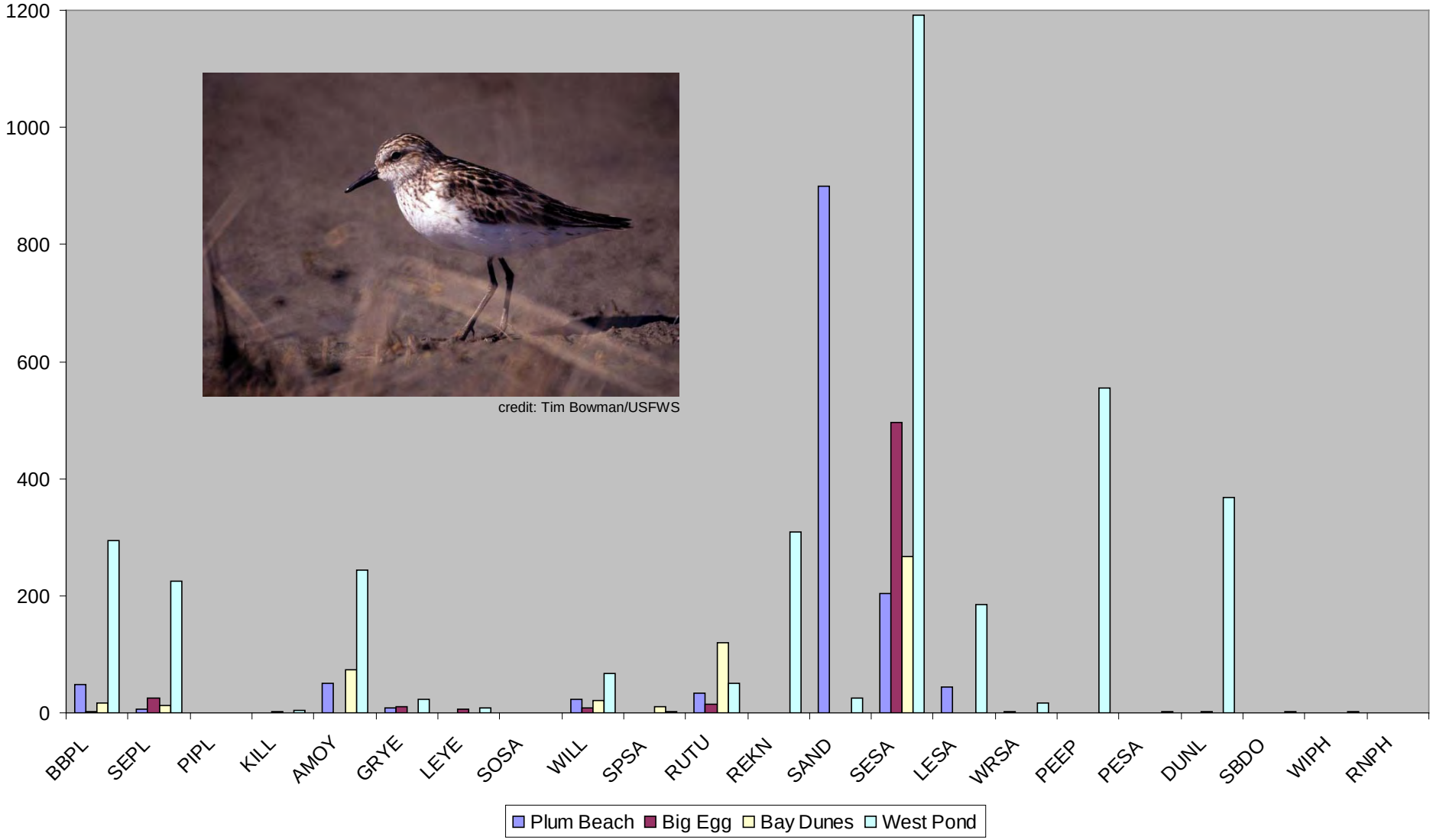
2009: 28,942 birds counted in 35 sample visits (1,196 per sample visit)

2010: 11,441 birds counted in 45 sample visits (254 per sample visit)

2011: 6,162 birds counted in 48 sample visits (128 per sample visit)

Individual shorebirds seen in each Jamaica Bay location: 2011

credit: Tim Bowman/USFWS



Shorebird monitoring

Jamaica Bay totals by species

	2009	2010	2011
Black-bellied Plover	999	422	366
Semi-palmated Plover	173	562	275
Ruddy Turnstone	669	1228	223
Red Knot	661	268	310
Sanderling	10,140	959	926
Semi-palmated Sandpiper	10,243	6,305	2,157
Dunlin	4,307	103	498

Horseshoe Crab monitoring

credit: Robert Pos/USFWS

Horseshoe crab monitoring (Plum Beach)

High tides, three nights around each new and full moon

Sample 100 ‘quadrats’ along a transect

Scientific protocol that NYSDEC uses

Measure and tag subset of crabs as well

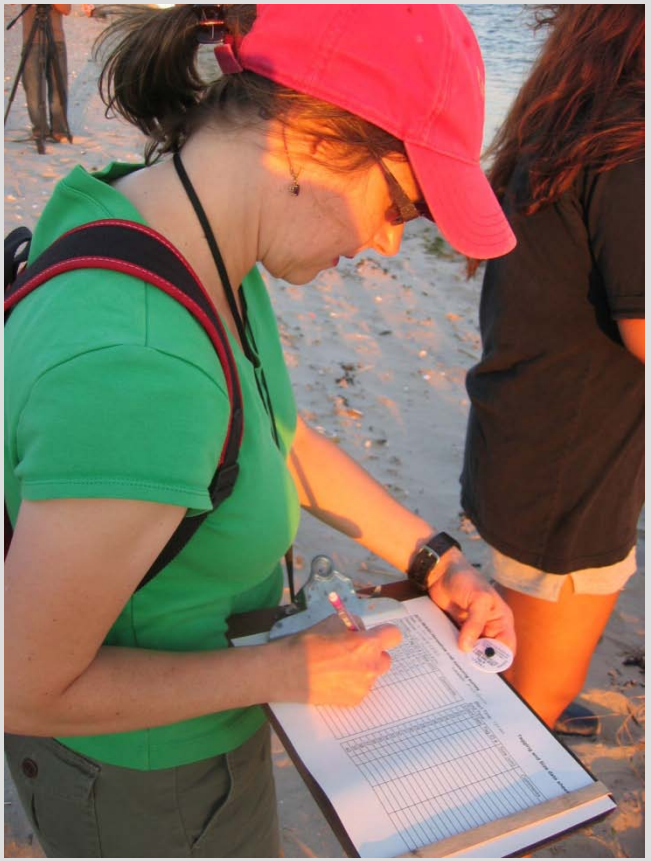
credits: Candace Khaokham

Horseshoe crab monitoring: Plum Beach

2009:
Sample visits: 14
Dates covered: May 7th – July 9th
Total horseshoe crabs counted in quadrats: 2,091
Crabs counted per sample visit: 149
Lowest count: 3
Highest count: 362 (June 7th)

2010:
Sample visits: 11
Dates covered: May 11th – June 28th
Total horseshoe crabs counted in quadrats: 1,493
Crabs counted per sample visit: 136
Lowest count: 0
Highest count: 651 (May 29th)

2011:
Sample visits: 15
Dates covered: May 1st – July 3rd
Total horseshoe crabs counted in quadrats: 2,029
Crabs counted per sample visit: 135
Lowest count: 0
Highest count: 552 (June 1st)

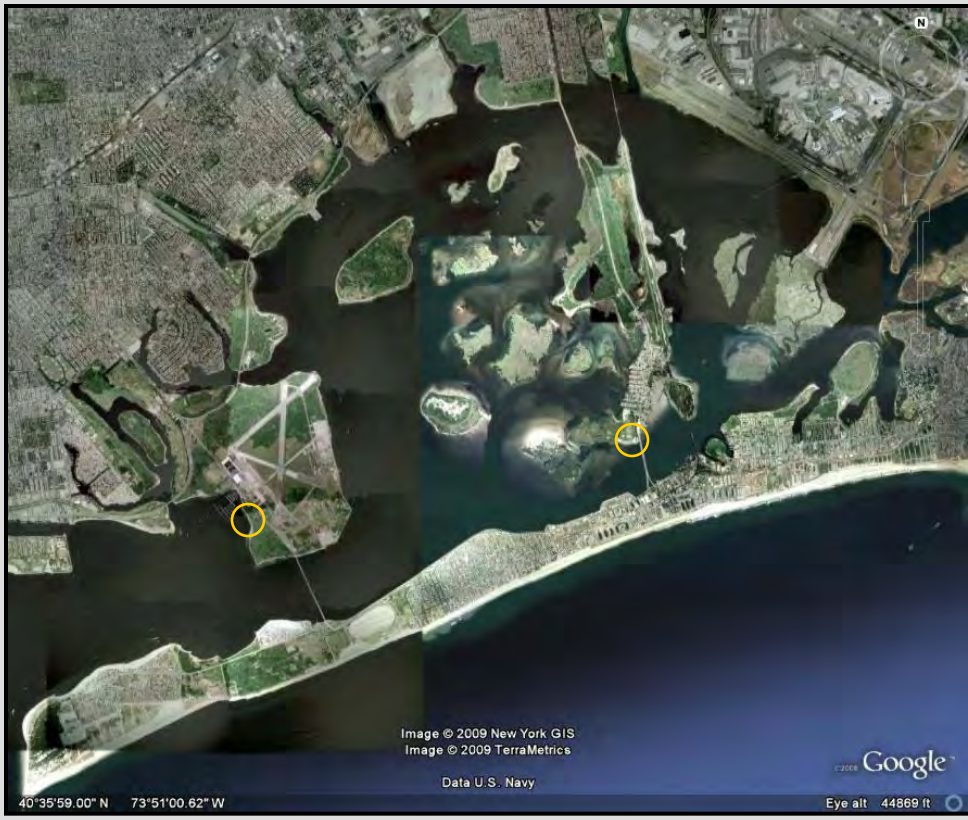


Horseshoe crab monitoring: other JB sites

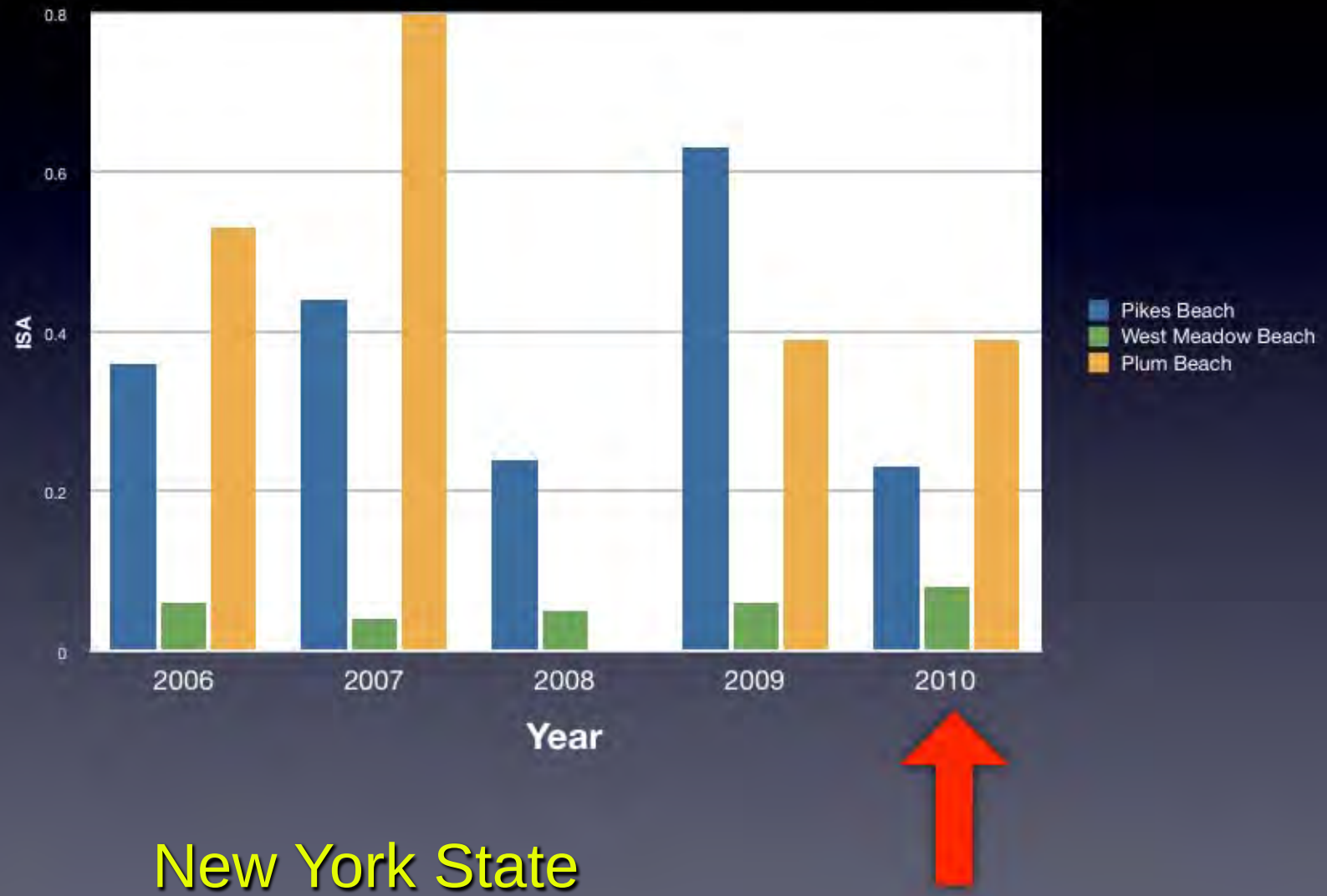
Complete counts of spawning crabs

Dead Horse Bay (2011):
Sample visits: 14
Dates covered: May 1st – July 3rd
Total horseshoe crabs counted: 4,406
Crabs counted per sample visit: 294
Lowest count: 0
Highest count: 1,478 (June 1st)

Big Egg (2011):
Sample visits: 14
Dates covered: May 5th – July 3rd
Total horseshoe crabs counted: 4,269
Crabs counted per sample visit: 328
Lowest count: 0
Highest count: 1,103 (June 3rd)



Index of Spawning Activity



New York State

Conclusions

Shorebirds

Horseshoe Crabs

Future Work

credit: Andrew Baksh

credit: John Rowden

Many thanks to all our Citizen Scientists:

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Matt Sclafani, Cornell Cooperative Extension

credit: Steve Nanz

Together Green™
act today, shape tomorrow

Questions?

credit: Steve Nanz