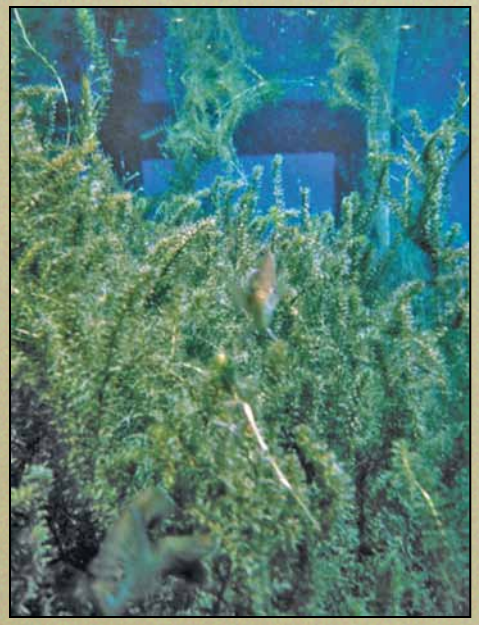


The Florida Fish and Wildlife Conservation Commission

and

The U.S. Fish and Wildlife Service

Present

Lake Toho Hydrilla Control Treatment Plan For 2010/2011

Hydrilla and Lake Toho

- Agency obligation to save bird
- Agency commitment/reputation for working closely with communities
- Taking adaptive approach to balance these obligations

Dennis David – Regional Director

Protecting the Everglade Snail Kite and Conserving All the Values of Lake Toho

U.S. Fish and Wildlife Service

Kissimmee, Florida

November 5, 2010

U.S. Fish and Wildlife Service

Conserving Kites and Multiple Species in Lake Toho

Outline of Presentation

I. The Condition of the Snail Kite

II. The Importance of Lake Toho's Multiple Uses

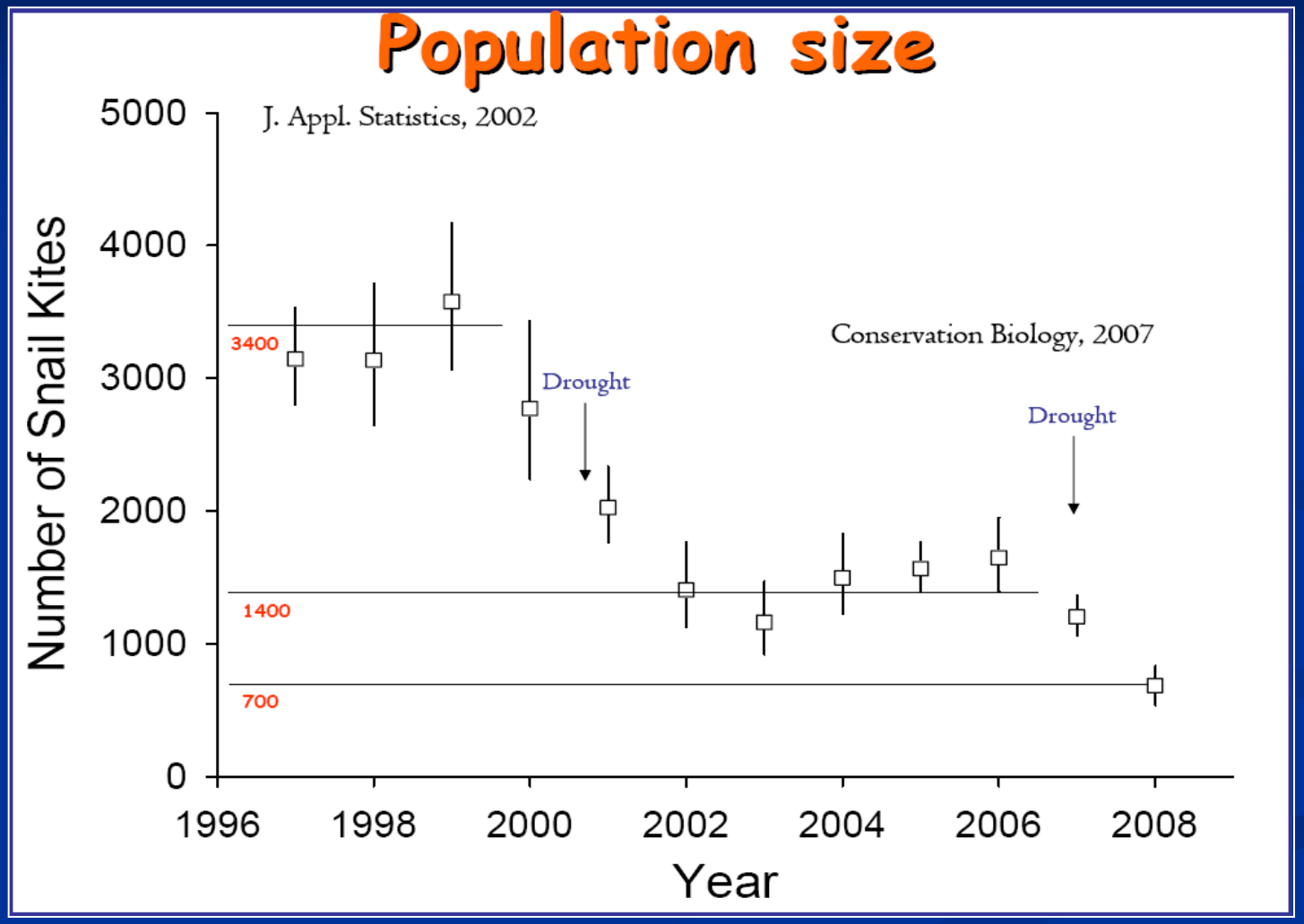
III. Challenges, Opportunities, and Next Steps

The Condition of the Snail Kite

- Wide Ranging Everglades Indicator
- Population Decline from Over 3,000 in the Year 2000 to Fewer than 700
- Two-Year Droughts
- Degradation of Habitat from Water Infrastructure of the 20th Century
- The Importance of Apple Snails
- The Importance of the Kissimmee Chain of Lakes

U.S. Fish and Wildlife Service

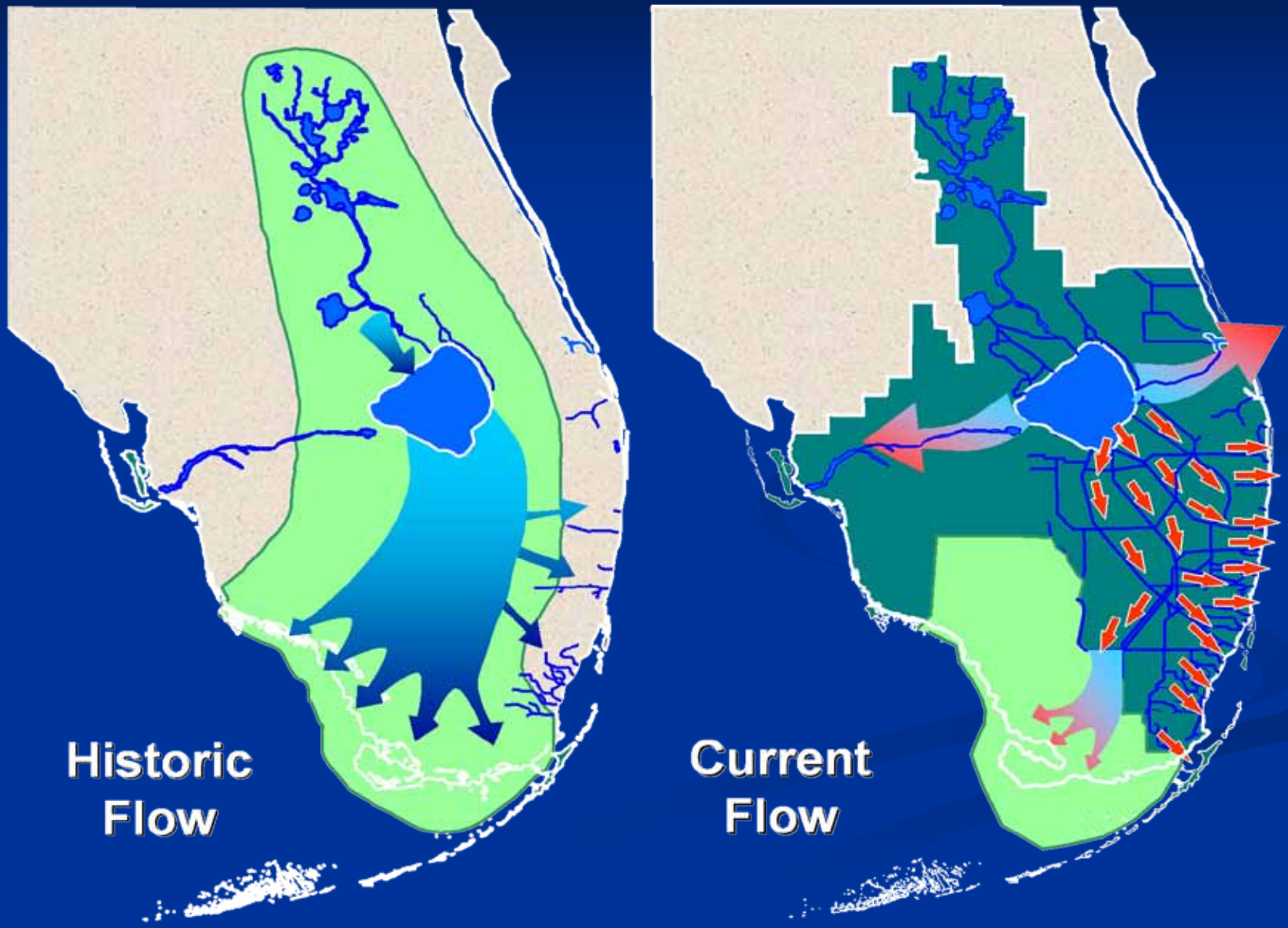
Conserving Kites and Multiple Species in Lake Toho



Source: Dr. Wiley Kitchens, 2008, USGS

U.S. Fish and Wildlife Service

Conserving Kites and Multiple Species in Lake Toho



The Multiple Values of Lake Toho

- Snail Kites
- Fishing
- Hunting
- Boating
- Recreation
- Waterfront Property
- Important Economic Contribution to the Community
- The Challenge of Hydrilla

Challenges, Opportunities, and Next Steps

- Current Constraints Throughout the Snail Kite's Range and Continued Emergency Room Management
- The Critical Importance of the Kissimmee Chain of Lakes to Snail Kites, Fishing, Hunting, Recreation, Homeowners, and the Community
- A Measured First Step and Adaptive Management Thereafter
- Monitoring and Communication – Partnerships
- Greater Everglades Restoration

U.S. Fish and Wildlife Service

Conserving Kites and Multiple Species in Lake Toho

Snail Kites and Hydrilla on Toho

Zach Welch

Frederick Wasti

Mike Tracy

Nesting Areas

Everglades

1990's = **1100** nests

2000's = **500**

Lake Okeechobee

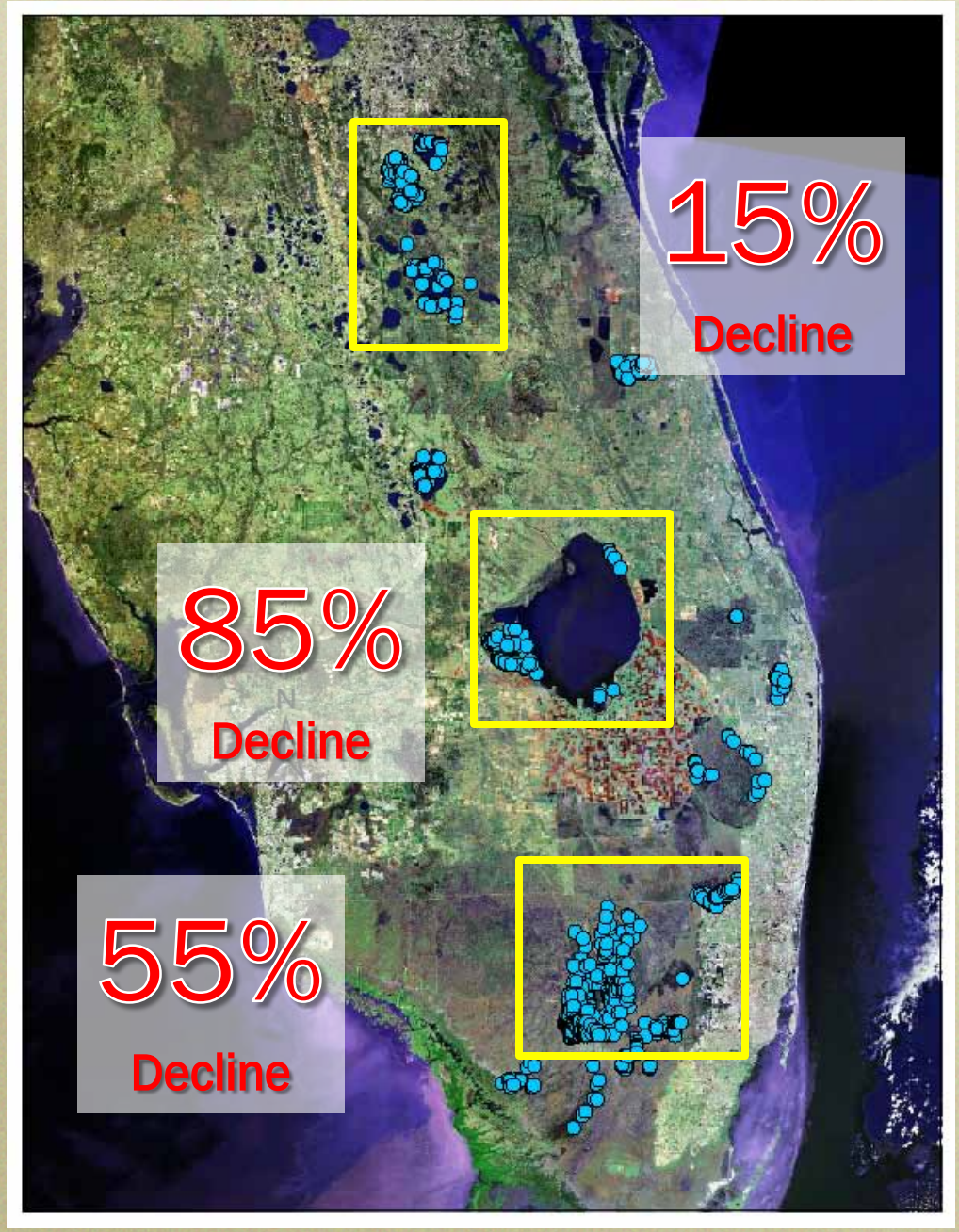
1990's = **420**

2000's = **60**

Kissimmee Chain

1990's = **550**

2000's = **470**



Recent Changes

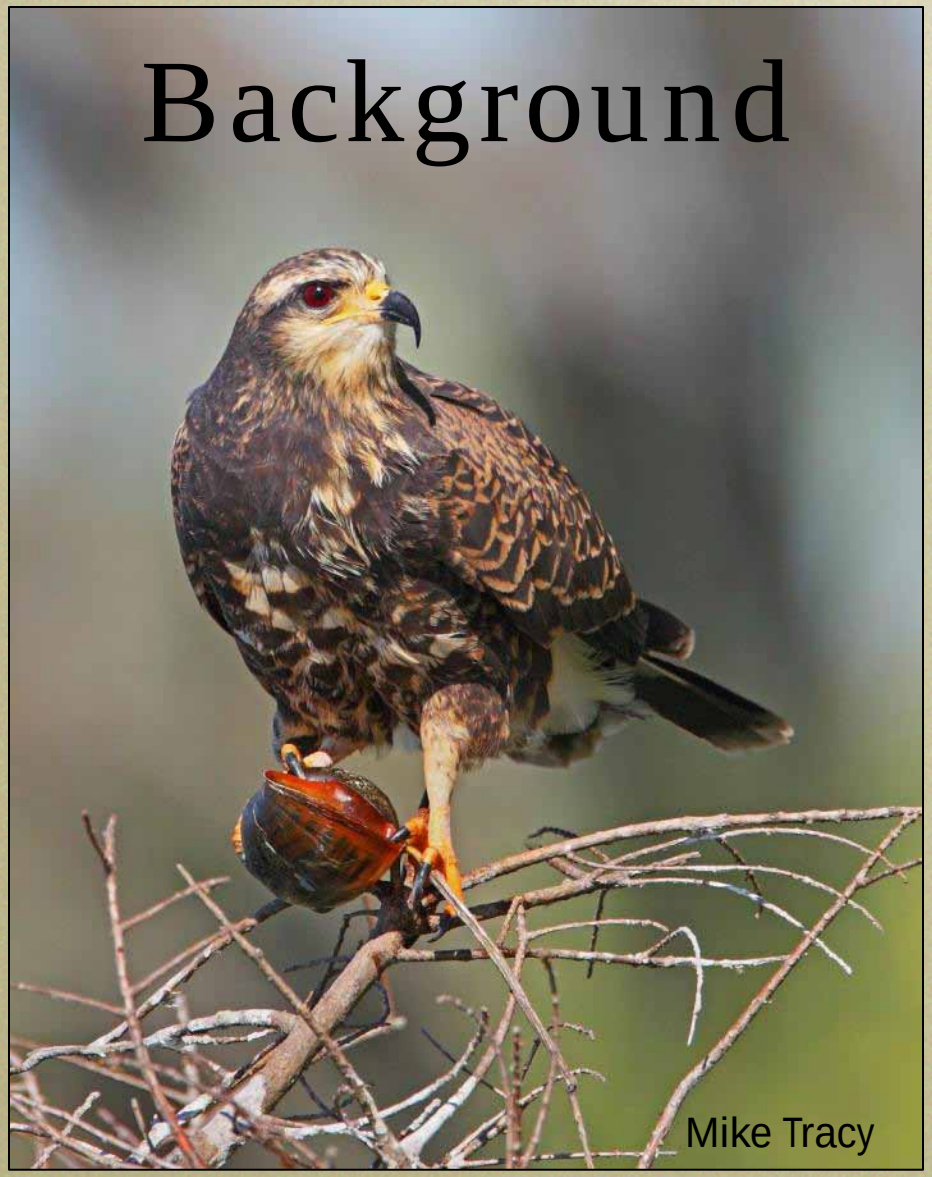
- In the past, kites used lake habitats more when Everglades were dry
- In the last 5 years, kites use Kissimmee Chain (Toho) like every year is dry in south FL
- What happened?


Mike Tracy

More Nesting in North

- Loss of habitat in south Florida
- Exotic apple snails find Toho (2004-05)
- Kites find more snails in more places (2005-present)

Background



- Need snails 6 inches or less from surface
- Cannot find snails in thick vegetation
- Need short-statured plants

Exotic Snails and Hydrilla

- Snails lofted in tops of hydrilla plants, increase acreage of areas where snails can be captured (Jackson, Okeechobee, STA 5)

Exotic Snails and Hydrilla

- More snails at surface for kites (deep water)
- Higher temps in hydrilla mats, more active snails earlier in the spring
- Highest number of nests on Toho since 1991

  (133 in 1991, avg of 80 from 2007-2010)

Scientific Rationale

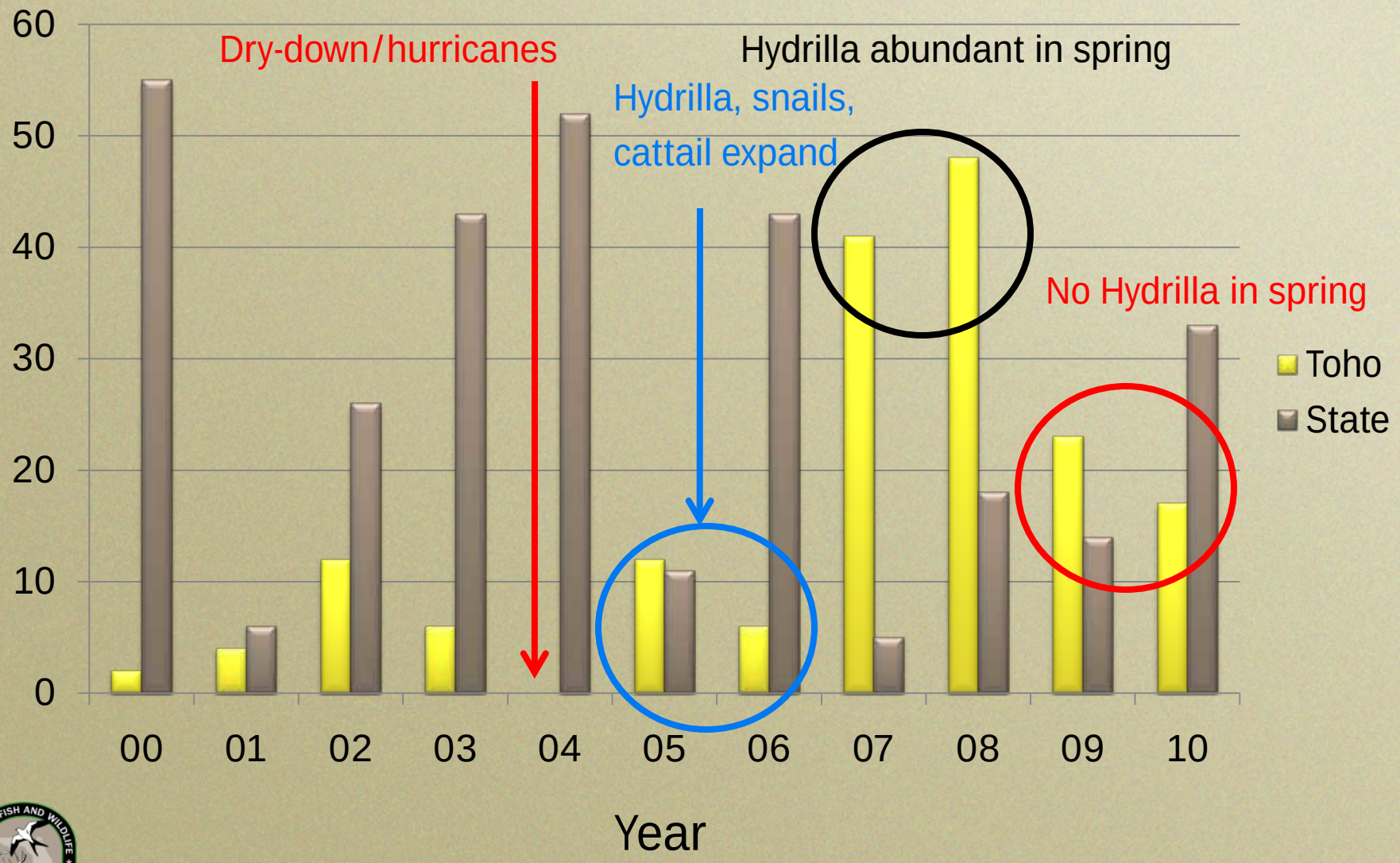
- Hundreds of observations of kites foraging in hydrilla (Lake Toho, Kissimmee, Okeechobee, Jackson, STA)

- Decline in estimated survival of radio-tracked juveniles following last spring hydrilla treatment (2008), and movement from lake (started treating in fall)

- Twice the success rate and twice as many successful nests in 2007-2008 compared to 2009-2010: hydrilla in spring

- 2010 breeding season: no hydrilla – 30% of nests were outside of lake (Mill's Slough, private property) and radio-tracked nesting birds were getting snails from outside the lake

Successful Snail Kite Nests – Toho vs. Rest of State



Hydrilla Control – Ed Harris

Hydrilla Background

- Growth rates and growth patterns
- Treatments – hydrilla response and regrowth
- Longevity of tubers and turions

Changes in Hydrilla Treatments

Kites

- Apply herbicides in winter instead of spring
- Withhold treatments near kite nesting areas

Hydrilla

- Developed resistance to fluridone
- Now using fast-acting, short-lived herbicide
- Hydrilla growth restarts very quickly

Changes in Hydrilla Treatments

- Current herbicide lasts longer in cold water
- Complicated our treatments in 2008-2009

- Reducing treatments further in case of severe winter or non-target impacts
- Measuring our treatment effects
- Measuring snail kite response

Treatment Plans 2010-2011

- Last year's plan ~3500-4500 acres
- Sep 2010 – Bare minimum, ~600 acres
- Oct 2010 – Include safety concerns, widen trails, increase access
- Oct 2010 – Made additional trails for recreation, prepare for more hydrilla growth
- Nov 2010 – Add more trails, fishing holes, and wider trails as hydrilla grows in 2011

2009 –

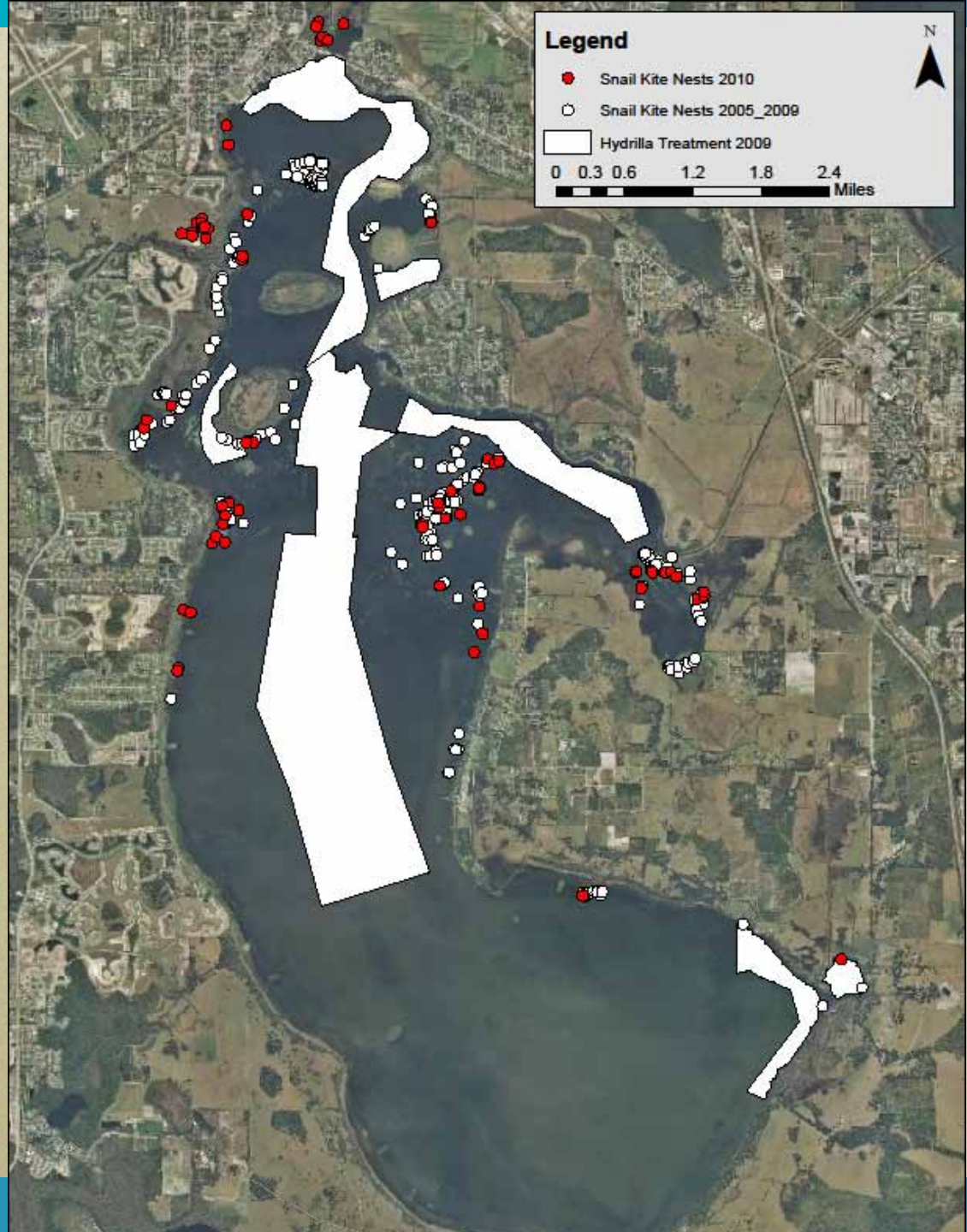
Single Treatment

2010 –

Multiple treatments

2011 –

Ex. Spring Treatments



Bottom line – Adaptive

- We are committed to maintaining access points and boat trails shown
- Can widen some trails or cut additional holes, etc. if method works well
- If hydrilla expands rapidly, we can increase treatments to reduce impacts
- We are treating adaptively, based on hydrilla growth, kite use, and initial treatment effect

Fisheries and Waterfowl - Marty Mann

Potential Impacts to Fish

- Increased hydrilla coverage generally means higher survival for newly hatched and young fish – more places to hide
- Too much hydrilla can reduce health and growth of larger fish – food is harder to find
- When hydrilla coverage is too high, fishing effort and catch success for bass and panfish can decline

Potential Impacts to Fish – Overall

- Bottom line – this year's plan is expected to positively impact the fish. With the adaptive management strategy we are employing we should expect high survivorship of YOY fish and not expect any effect on growth of sportfish, lower catch rates (fishing success) or fishing effort
- This community will help guide this strategy every step of the way

Potential Impacts to Waterfowl

- Hydrilla provides habitat for many invertebrates, small prey items for ducks
- Bottom line – this plan will likely increase available habitat for waterfowl this winter

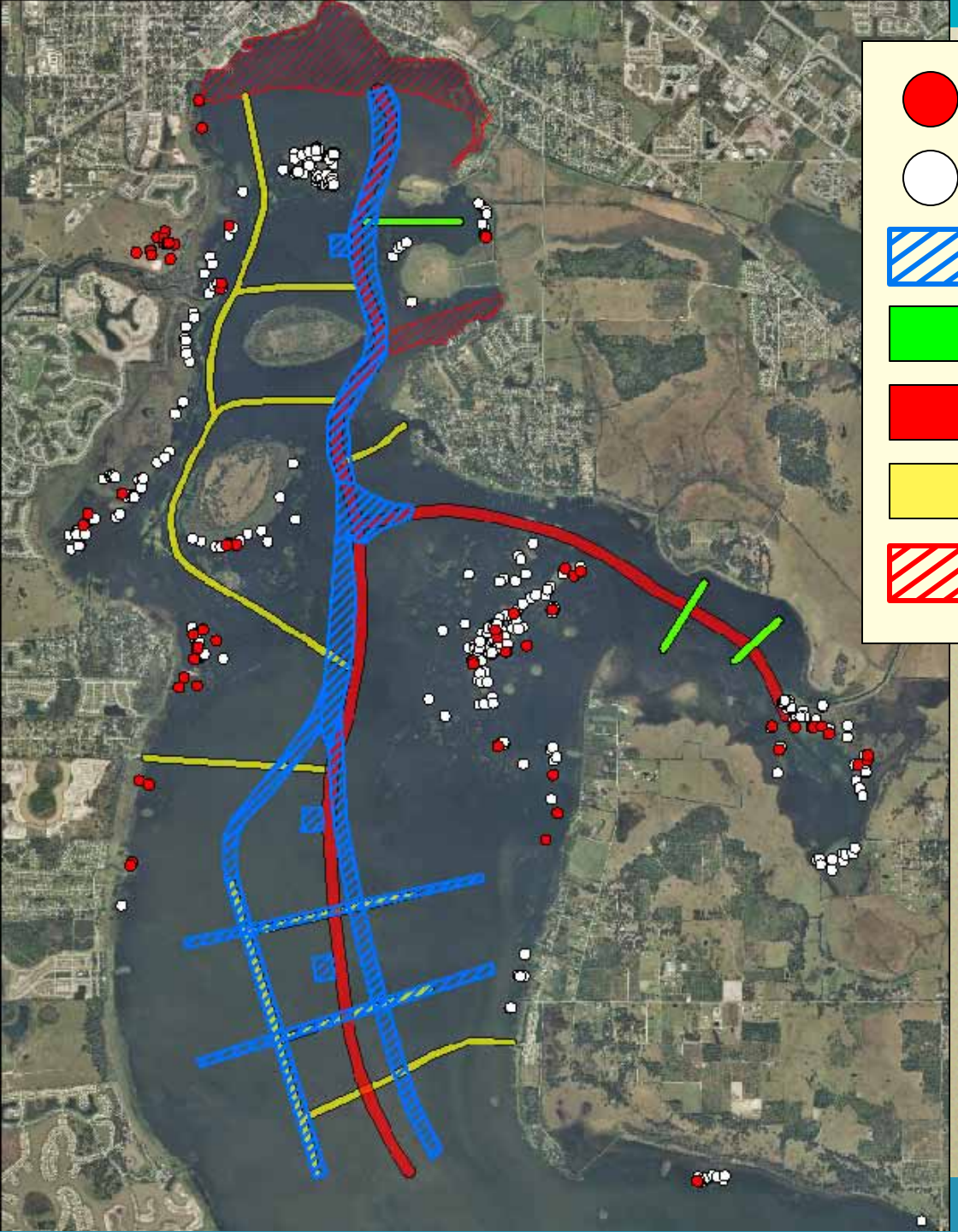
Summary – Bill Caton

Short Term

1) Assess hydrilla treatment effects
2) Assess snail kite activity
3) Increase treated areas based on 1 and 2, and hydrilla growth during winter

Long Term

- Restore habitat in south Florida
- Restore ability of kites to cope with periodic disturbances (hydrilla treatments, dry-downs, etc.)



Nests 2010

Nests 2000 – 2009

Examples for Spring

Recent Additions – 250 ft

Main Channels – 400 ft

Secondary trails – 250 ft

Main Blocks