

Recreational Wildlife Viewing Management, Crystal River National Wildlife Refuge

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Framing the Situation: Three Sisters Springs

- The springs, manatees, people, culture, and concerns.
- 2015 management actions & springs activity monitoring
- 2015 – 2016 NEPA manatee season and beyond
- The Service's approach



The Service's approach

... a safe, high-quality in-water wildlife viewing experience that does not compromise manatee protection.





The springs, manatees, people, culture, and concerns.



- *How we got here*
- *Manatees and people*
- *What changed*
- *Culture and economy*
- *Concerns*

2015 management actions & springs activity monitoring

- Recent management actions
- Monitoring study - 1 & 2



Monitoring 1: Manatees, People, and Three Sisters Springs

— observations by Carl Wolfe and Rae Ellen Syverson

- *Manatees' Springs use.*
- *Tide and temperature influences ; presence or absence of swimmers or paddlecraft.*
- *Adverse interactions - manatee movements.*
- *Manatees and humans - mutual curiosity.*
- *Springs run (entrance channel).*
- *Tour group behavior w/ and w/o guides.*
- *Manatee behavior w/ and w/o people.*



Monitoring 2: Manatees and People in Three Sisters Springs

Observations by the Crystal River NWR Winter Interns

1. Paddlecraft in spring run blocked, collided, and paddled over manatees.



Summary of observations (cont.)

2. Bad behavior: swimmers in the spring run, walked, blocked, swam over, collided, and pursued manatees.



Summary of observations (cont.)

3. In-springs manatee distribution:

Cow/calf pairs and other manatees generally showed a preference for the closed lobes.



Three Sisters Springs NEPA for 2015 – 2016 manatee season and beyond

EA will evaluate:

- Recent measures implemented.
- Behavior of viewers in the spring.
- Number of people (crowding) within the spring.
- Manatee's ability to get in and out of the spring.



Summary

- The Refuge is evaluating public access.
- Last season's monitoring informing selected management approach.
- Commitment to working with partners and stakeholders to protect manatees.



