Memorandum

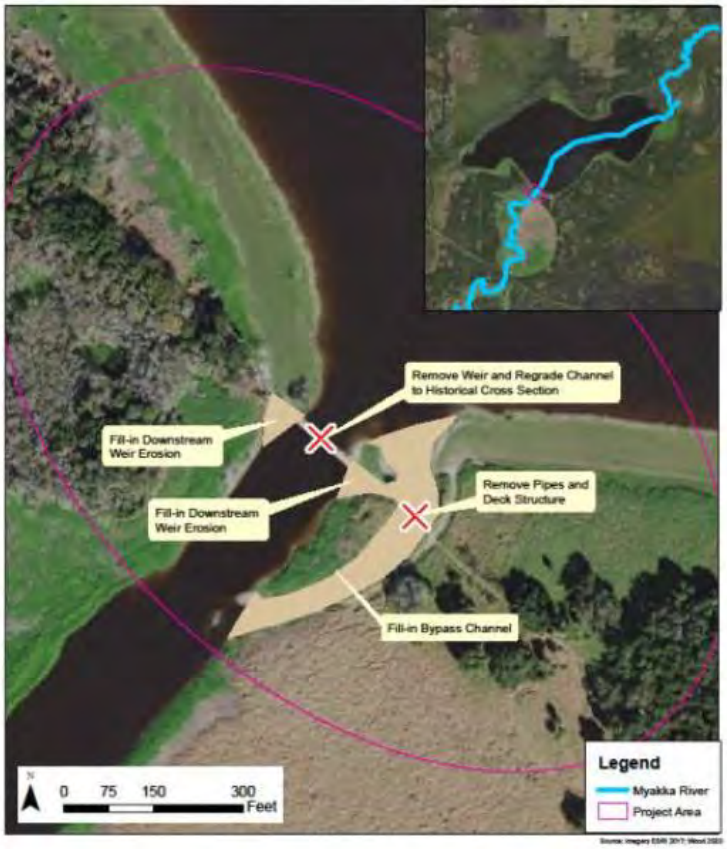
Florida Department of
Environmental Protection

Myakka Wild and Scenic River Program
2021 Annual Report

A. Permitting & Regulatory issues

1. The FPS District IV continues the effort to restore the Upper Myakka Lake (UML) Bypass/Weir Area as directed in the adopted Myakka Wild and Scenic River (MWSR) Management Plan, under Action 2.4. In October 2017 an application was submitted to request funding through the SWFWMD Cooperative Funding Initiative (CFI) to conduct modeling to identifying the best solution to this long-standing issue. In October 2018 SWFWMD approved matching funding. Wood Environment & Infrastructure Solutions, Inc. (Wood) was contracted to produce a feasibility study. In summer 2020 Wood provided a final study and their recommendation for restoration the area to the pre-alteration condition. The FPS, SWFWMD, FWC's Aquatic Habitat Restoration Enhancement (AHRE) Program, and U.S. Fish and Wildlife Service (FWS) agreed to partner in this effort. Wood provided additional work from the conceptual design toward formal construction plans and applied for the necessary restoration permitting with SWFWMD and ACOE in late 2020. Permits were received in 2021 but procurement issues stalled the planned FWS demolition of the structures targeted for the dry season in 2021. The FPS regrouped and are now aiming for a 2022 restoration.

Exhibit 5.1a - Alternative 1 Conceptual Plan



Conceptual design for restoration from Wood UML Feasibilty Study2020, from page 42.

2. The FPS District IV continues the effort for the restoration of the Downs' Dam area as directed in the adopted MWSR Management Plan, under Action 2.4. In October 2018 an application was submitted to request funding through the SWFWMD CFI to conduct modeling to identifying the best solution to this long-standing issue. In October 2019 SWFWMD approved matching funding for the project and in early 2020 a contract with Wood was secured for a study. The O Bar O Ranch hosted the consultants and agency staff for a February 2020 kick-off meeting for this project. The FPS, SWFWMD, FWC's AHRE Program, and FWS have agreed to partner in this effort. The consultant has completed survey, modeling, and a cost and benefit analysis and produce the requested Feasibility study that recommended removal of the dam and restoration of both banks. Pending an agreement with adjacent Ranch and required permitting, this restoration project could occur in Spring 2023 or 2024.

Aerial image showing river bypassing the structure of Downs' Dam where erosion is cutting into hydric hammock from MRSP.

3. In 2020 several bank areas within the river area were under consideration for measure to address erosion issues. This included both private and public properties, but most were located from the Laurel Road area down to Snook Haven Park (SHP). These issues are complex for many reasons. Several issues set up potential conflicts with concepts in the MWSR Management Plan frame for protecting the river's natural resource values (NRV) and the interests of property owners. The first complexity relates the actual determination of where the "river area" is, and therefore what can be regulated under 62D-15. Formal determination is necessary.

A second issue more broadly relates to loss in NRV along the river from shoreline protection measures. Erosion is often a natural process associated with riverine systems and thus, to some degree, should be expected and accepted. Additionally, many locations recently identified to have erosion issues are known to have other human related drivers that are likely accelerating bank loss. The most common of these drivers are wakes from increased occurrences from speeding boats, the removal of vegetation, or unintentional trampling of vegetation. Shoreline protection measures often need engineering and thus may be costly. The simplest traditional solutions include building walls or using materials like riprap which have a negative impact on NRV including the viewshed.

- Structure off North Jackson Road. In 2019 permitting issues arose related to shoreline wall adjacent to a structure constructed in the river area off North Jackson Road. The project was initially submitted as exempt and fully in uplands (i.e. not in the river area, and thus not regulated under 62D-15). Initially, a Safe Upland Line (SUL) was established well below the 'top of bank' making the project exempt. Conversations and site visits occurred to address regulatory issues related to the location of river area. After a site visit, the limit of surface waters was determined by the present Ordinary High Water Mark (OWHM). The South District Regulatory Office (SDO) found that the entire project was below the OHWM and therefore, in the river area. On October 31st, 2019 SDO issued a permit stating, "the permittee is authorized to stabilize an eroding shoreline through the installation of a 117-linear foot retaining wall and vegetative plantings within the landward extent of the Myakka River, a Wild and Scenic River, Class III Outstanding Florida Waters. Those activities include the restoration of an eroding shoreline through the installation of vegetative plantings on state-owned sovereignty submerged lands." The physical wall was installed in early 2020. The permit required plantings including in front of the wall to mitigate impact to the view but were viewed as very unlikely to establish. Plantings were installed at the top of the structure in late 2020. See photos.

2000 (left) and April 2016 (right) pre-installation views of the project area.


2020 post-installation of wall.


May 2021 post-installation of vegetation required as mitigation in permit for the shoreline protection wall.

- Proposed structure off South Moon Drive. In March 2021 an application was received by SDO for two proposed shoreline walls in the river area. On December 10th, 2021 a permit was issued "To install approximately 135 linear feet of

seawall and 83 linear feet of seawall landward of mean high water to be faced with riprap that has a maximum slope of 2 to 1 and located landward of mean high water to stabilize the shoreline and protect the existing road and wastewater utilities…" See photos.

Location area one for the 135-foot proposed wall (not far above Snook Haven Park).

Location area two for the 83-foot proposed wall (not far above Snook Haven Park).

- Discussions about slowing the erosion or using structural stabilization occurred related to the Venice Myakka River Park (VMRP). Over the past three or four years several trees have collapsed, and the river is now closer to paved foot path. See photos.

Looking south after fence and native plantings to slow erosion (VMRP, February 2, 2021).

Looking north after fence and native plantings intended to slow erosion (VMRP, February 2, 2021).

B. Incidents

1. Blatant non-compliance with the posted MWSR and manatee speed limits remains a serious issue. Residents, paddlers, fisherman, and tour operators frequently report observations to this office. A significant portion of boaters fail to comply with regulatory signs. All these activities have an impact to the NRV in the river area and are a potential hazard to other recreational users. Wakes from speeding in some locations appear to be accelerating bank failure and loss of point bar vegetation.

    - Discussion continue regarding improvement of signage at most public access points including; SHP, VMRP, and MRSP.

    - After discussing with stakeholders, the MWSR Program worked with FWC, Division of Law Enforcement, Boating and Waterways Section to changes regulatory speeds within the MWSR under Florida Uniform Waterway Marker (FUWM) Permit (#91-019). This action reduces several river sections from "Slow Speed / Minimum Wake" (SSMW) to "Idle Speed / No Wake" (ISNW). This includes the Lower Myakka Lake (LML) and entire river within MRSP except for the UML (which remains SSMW). This action was taken due to the high level of blatant non-compliance of posted speed signs which creates safety issues for other boaters, paddle craft operators and impacts to NRV. It has been documented that speeding boats and associated wakes impact resources values including, but not limited to; erosion from boat wakes and the flushing of wildlife.

    - Some regulatory signage on the Myakka River is old and failing. In 2020 signs associated with four pilings from U.S.41 were replaced. Additional signage will need to be replaced soon. This year regulatory signs were updated at the UML boat ramp and on the S.R.72 bridge and reestablished at the south MRSP boundary. Additional regulatory signs were added in MRSP at the park drive bridge and one the USGS gage just south of Downs' Dam.

    - Speeding jet skis appears to be an emerging issue with several occurrences of unsafe operations seen during surveys and reported to this office. This includes jet skis in ISNW zones and entering the MRSP Wildlife Preserve (without permits) and causing unsafe situations with paddle craft.

Group of speeding jet ski operators within the IDLE zone at Snook Haven (reported to this office in April 2021).

2. Continued unpermitted camping and fires, and the illegal removal of vegetation including listed species remains an issue impacting NRV on private and public conservation properties.

Examples from December 2021 report, showing a hot spot for unpermitted camping, note the chair hung from a tree to and the erosion above.

3. Impacts from fossil collection in the river area on NRV is very apparent especially during the low water season. Fossil collection activities are prohibited in the MWSR by both state rules (62D-15 F.A.C.) and Sarasota County Ordinance (Chapter 90.33). The number of indirect and direct observations of this activity has increased even over the high levels observed in 2020. Several areas along conservation lands have been heavily impacted by repeated fossil collection events using hand tools, large (4') shovels and specialized sieves. Evidence suggests a significant portion of this activity has a commercial element. In one area fossil hunters created a low rock and palm log dam in order to retain water to run pumps and/or utilize large sieves. This (unpermitted) small dam blocks fish and recreational passage. In prior years similar small dams have been seen at this location. Some fossil hunters are engaged in unpermitted camping, with additional impacts, in the MRSP and County Preserves to facilitate their activities. A small but active fraction of fossil collectors may overnight at County Preserves and Right of Ways in vehicles which is also not allowed. Fossil collectors often assert their activities are allowed.
    - "*The volume of fossil hunters of Florida streams seems to be exploding in response to highly-active social media sites and YouTube channels dedicated to promoting the activity and sharing their findings. This creates a 'gold rush' effect to hot spots – concentrating much activity in some streams*". "*These activities destabilize the banks, causing massive erosion in some streams. The simple act of heavy foot traffic by fossil hunters on streambanks denudes streambank vegetation leading to further erosion. In essence, the collection methods popular today are changing the morphology and likely the ecology of many of our stream channels and banks." (Dr. John Kiefer, fluvial geomorphologist, personal communication)*
    - For background on the state prohibition **"**Dredging" means the excavating of materials, by any method, in the river area (62D-15.002 (8)). This broad definition would clearly include fossil activities which by its nature involves movement of materials from the riverbank or river bottom. In 2020 and 2021, all the observed fossil hunters were seen with metal tools and/or seen actively digging, moving, or scraping sediments within the river area. FDEP regulates certain activities under 62D-15.006 (2) (A) in which dredging is specifically denoted as requiring an application/permitting to ensure activities will not harm resources. It is clear that the intent of the rule was to restrict the intentional movement of sediments even prohibiting dredging for dock construction and navigation purposes. ["Dredging or filling. Dredging or filling shall be permitted *only upon a determination by the department that the proposed activity will not adversely impact resource values and is clearly in the public interest*." (62D-15.008 (11) (b))]. Having reviewed materials from the MWSR Program, it is the view of the MWSR Program Office that fossiling has been consistently viewed as prohibited, since the rule was established in 1990, as 1) a form dredging, 2) requiring an application to FDEP (not the FMNH) for the permitting process, and 3) unlikely to be authorized by FDEP under 62D-15 due to the inherent impact of the activity on NRV (and the high public interest bar). In 2021, the MWSR Program requested a clarification statement and assistance from the Bureau of Natural and Cultural Resources.

- The majority of fossil collection activities occurs in the 'dry season' with low water levels were fossil hunters wade in the shallows (typically above Laurel Road). However, fossiling while snorkeling in the shallows, or free diving in deeper water or using scuba equipment is being more commonly seen and allows for fossiling at more water levels. Scuba activities appear to be focused around Border Road, near SHP downriver to the inlet of Deer Prairie Creek. According to media reports, a Tampa-based commercial fossil hunter was bitten by an alligator just after he entered the river immediately off SHP.

Snorkelers with hand tools within MRSP (left, 12-2021). Note to the right, a second commercial fossil hunter using scuba equipment to dive for a lost Go-Pro (from May alligator incident) in front signage for Snook Haven Park, above same diver with a metal scraping tool.

4. Monitoring of Deep Hole wildlife for concerns related to recreation impacts continues.
   - In early 2020 Zane Walsh, a student from New College, conducted an alligator study at Deep Hole and wrote a paper on his findings, "The Flushing Behaviors of the *Alligator mississippiensis* Deep Hole Population in Relation to Human Interference and Disturbances at Myakka River State Park". The effort based on thirty-three hours over six days noted "a total of 70 identifiable instances of flushing behavior were recorded from *A. mississippiensis* at the deep hole site.' A second follow up study was planned for 2021 but delayed to 2022.

   - During the regular river survey, attempts were made to capture more information as to the location of alligators on the bank, any observed flushing or human interactions.

Generally, at Deep Hole there appear to be fewer total alligators observed during surveys, less basking behavior of large numbers of alligators and more observed flushing events. These changes likely have multiple drivers, one is an increase in recreation activity. Further discussion of this issue is in section D.

C. Nuisance and Exotic Plants and Animals

1. Island apple snail (IAS), *Pomacea maculata*, egg masses appear to have generally declined from being very abundant until around 2019. For background IAS began showing up on the UML in September 2011. See prior annual reports for more detail on this issue.
   - For the seventh consecutive year no native apple snail eggs were seen during surveys or other visits to the river area.

2. Invasive fish species remain a major issue in the entire watershed. Invasive fish dominate the overall fish population in many sections of the river which has large negative effects on other fishes and aquatic vegetation and may increase factors such as erosion and turbidity.
   - An FWC threat assessment for Myakka River is underway and will consider these elements.
   - The FPS is in discussion with FWC about monitoring of invasive fish and possible control efforts.
   - Hydrological restoration efforts, including the removal of the UML Weir and Downs' Dam are anticipated to assist in the effort to control these non-native species.

3. Expanded efforts to reduce large monoculture areas of paragrass (*Urochloa mutica*) and West Indian Marsh Grass (WIMG, *Hymenachne amplexicaulis*) were undertaken in 2021. This included one aerial herbicide treatment of about 160 acres which was conducted targeting parts of Big Flats Marsh (BFM) down to Fisherman's Loop and the eastern floodplain marsh down to S.R.72. When water levels allowed, additional treatments were conducted by both staff and FWC IPM contractors in MRSP. The Conservation Foundation of the Gulf Coast (CFGC) contractor continues to work areas of paragrass above MRSP.

   For background, major efforts to reduce large monoculture areas of paragrass in BFM began in 2015. Through FWC's AHRE Program, large areas were treated with herbicides in late 2015 and 2016 for paragrass that formed a dense monoculture over the majority of the marsh. Overall, since 2015 much of the floodplain marsh above S.R. 72 has seen a significant drop in large dense areas of non-native grasses. The restored marsh is much more diverse and more structurally open. There has been an increase in observations of birds and other wildlife using these more open marsh areas.

MRSP purchased and began using the above Argo (amphibious UTV) to assist the effort to reduce paragrass while also minimzing impact (July 2021).

D. Wildlife and Plant Monitoring

1. River Inspection data from 1990 through 2020 has been entered into the MWSR Wildlife Database.

2. Throughout the year, several interesting wildlife sightings took place during regular monthly surveys. A sampling of these sightings includes:

- During the January survey, 213 alligators were observed during this survey, 52 of the above were located at Deep Hole. Four kayakers had beached and during the initial alligator count, two hikers approached and stood at the south rim of Deep Hole. Of the 52 total alligators, 24 were fully out of the water, basking. Most of these were the largest alligators of the group and were concentrated in the typical area on the north bank. The vast majority of this preferred area for basking was not occupied. Another 4 alligators were partially out of the water. The remaining 24 alligators were already fully in the water.

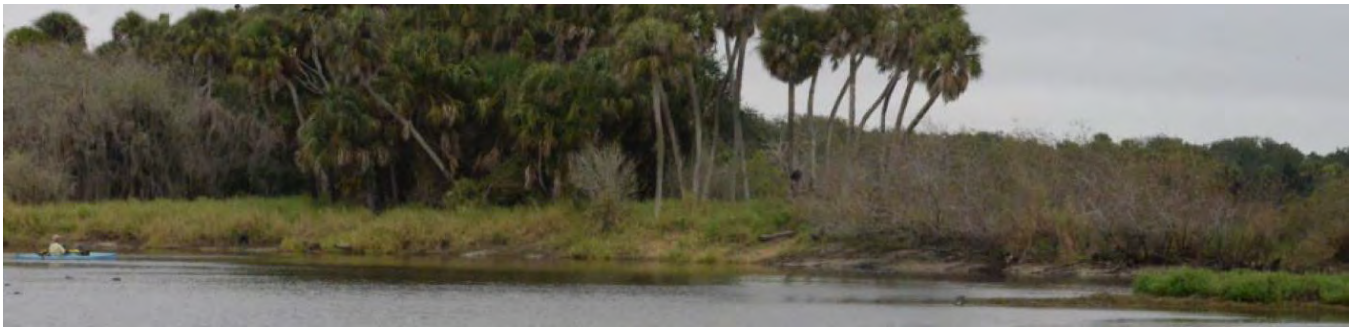
Four kayakers landing at Deep Hole.

- During the May survey, it was notable that several cliff swallows were nesting with barn swallows under the S.R.72 Bridge.

Bacopa rotundifolia reestablished in the shallows for a third year, south of Deep Hole (May 2021)

- During the December survey four dead alligators were noted during the survey in the area just south of S.R. 72. The alligators did not show any obvious cause of death. At Deep Hole as we gained visibility of the area, we noted that seven hikers were present. Only forty-one alligators were observed, of which *no alligators were fully out of the water*. Two were partially out of the water, with the remaining thirty-nine alligators were already fully in the water. The two alligators partly out of the water were seen to flush into the water as kayakers turned in their direction to photograph them.


High level of activity at Deep Hole on 12-14-2021


Deep Hole on 12-14-2021 at 10:20am, note premium basking area along north bank has no alligators – *compare with below*.


Deep Hole on 12-20-2021 at 2:50pm**,** note premium basking area along north bank has several alligators – compare with above.

3. A single Great Cormorant (*Phalacrocorax carbo*) was observed within a group of double-crested Cormorant (*Nannopterum auritum*) gathering on the UML weir structure. This observation is very uncommon in our area. This bird was spotted by David McQuade and posted to social media on November 21st and has been seen at the weir daily through this

period. Only one prior observation is recorded for this species at MRSP, in the district database, by Ken Alvarez his field notes. Photo below is from November 29th.

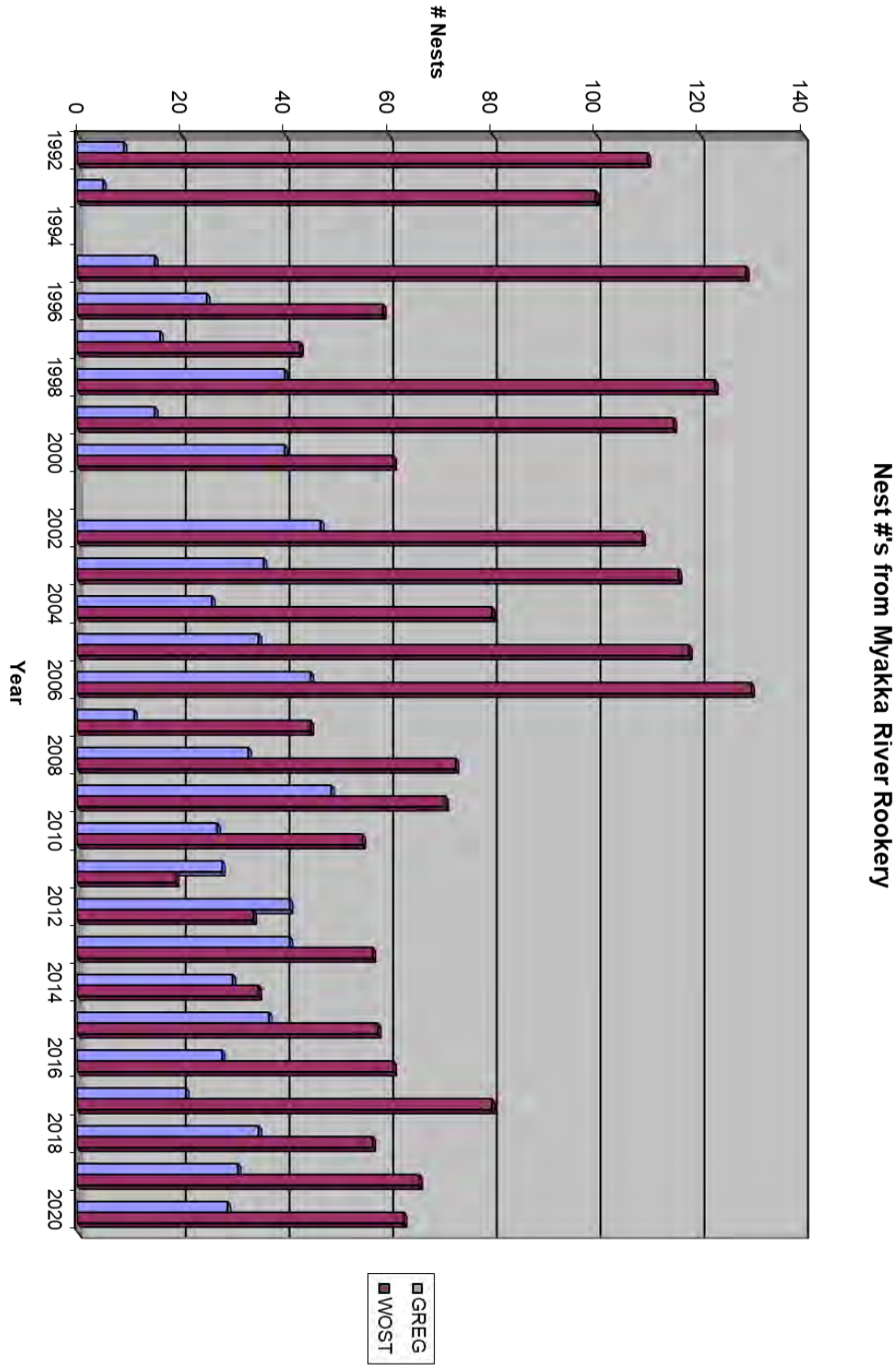
4. For the tenth consecutive season, numerous documented Florida manatee sightings above the tidal Myakka River indicate that manatees are using areas within MRSP and upriver into Manatee County for many months when water levels and temperatures are favorable.
    - With help from staff, visitors, and volunteers, the MWSR Program documented at least 22 recorded observations from early June until September 20th. Manatees were likely present a minimum of 69 days in MRSP aquatic habitats based on observations but likely present much longer in the system. Based on previous data and water level data manatees had the potential to utilize MRSP for about 172 days. The five-year average (2016-2020) indicates that manatees are present above the MRSP south boundary on average about 122 days per year.
    - For the seventh consecutive year manatees were observed above MRSP near the C.R.780 Bridge.

Manatees frequently use the lagoons above and below the Park Drive Bridge (August 24th, 2021)

5. Snail kite observations were not documented in MRSP in 2020 perhaps due to rapid collapse of the IAS population. In the three-years prior there was an increase in snail kite reports in the large floodplain marsh areas. Monitoring will continue.

6. The Myakka Rookery was designated as a Critical Wildlife Area (CWA) in 1987. The FWC Commissioners met in November 2016 and approved a buffer zone around the CWA. The new protection area is 75 feet on the north, west and south sides and 50 feet on the east side. The commission took this action to reduce the potential impacts to nesting birds from any disturbance from recreational activities. The protected season is January 1 through August 31, during which most of the nesting season occurs. Signage was installed in late January 2018.

   As in previous years, the CWA (Myakka Rookery) was monitored during monthly wildlife surveys. (See graph of estimated nesting by MWSR Program on the following page.)


Nest #'s from Myakka River Rookery
Nests
0
20
40
60
80
100
120
140
Year
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
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2020
GREG
WOST