

Corkscrew Watershed Initiative (CWI): Comprehensive Hydrologic Modeling and Restoration



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Big Cypress Basin
Board Meeting
October 27, 2023



Kim's Photo here

Kim Fikoski
Lead Project Manager, SFWMD

Background and Context

➤ How we got here

- Flood Studies, Water supply studies & Environmental studies
- Ongoing observed changes in hydroperiod in Corkscrew
- Board interest to comprehensively address the situation
- Charge to staff to engage with Audubon

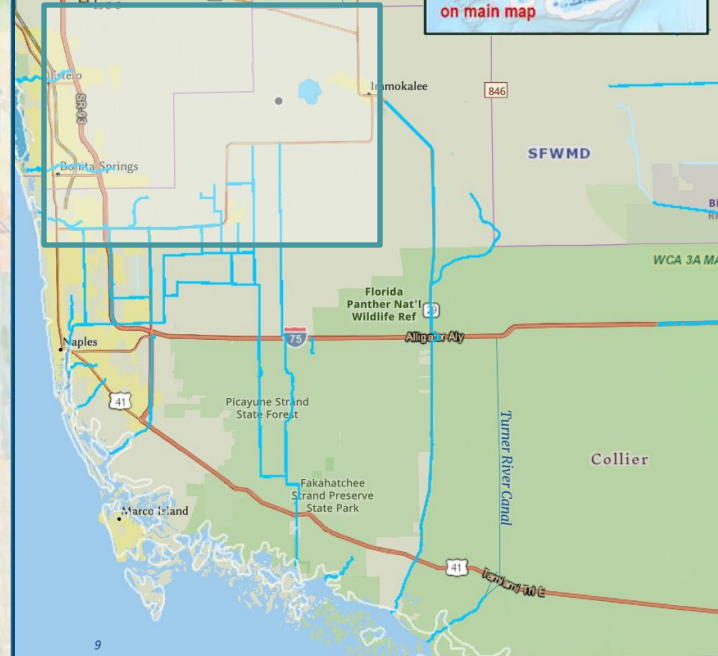
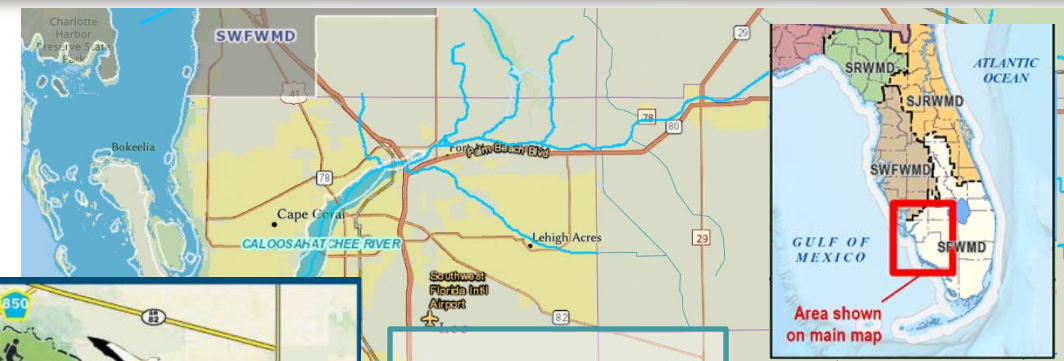
➤ What you will see going forward

- Approaching important preparatory milestone
- Periodic updates to board as we transition from preparation to initiation of study
- First (should I say third) update today

CORKSCREW REGIONAL ECOSYSTEM WATERSHED (CREW)

Multiple hydrologic units within the CREW lands

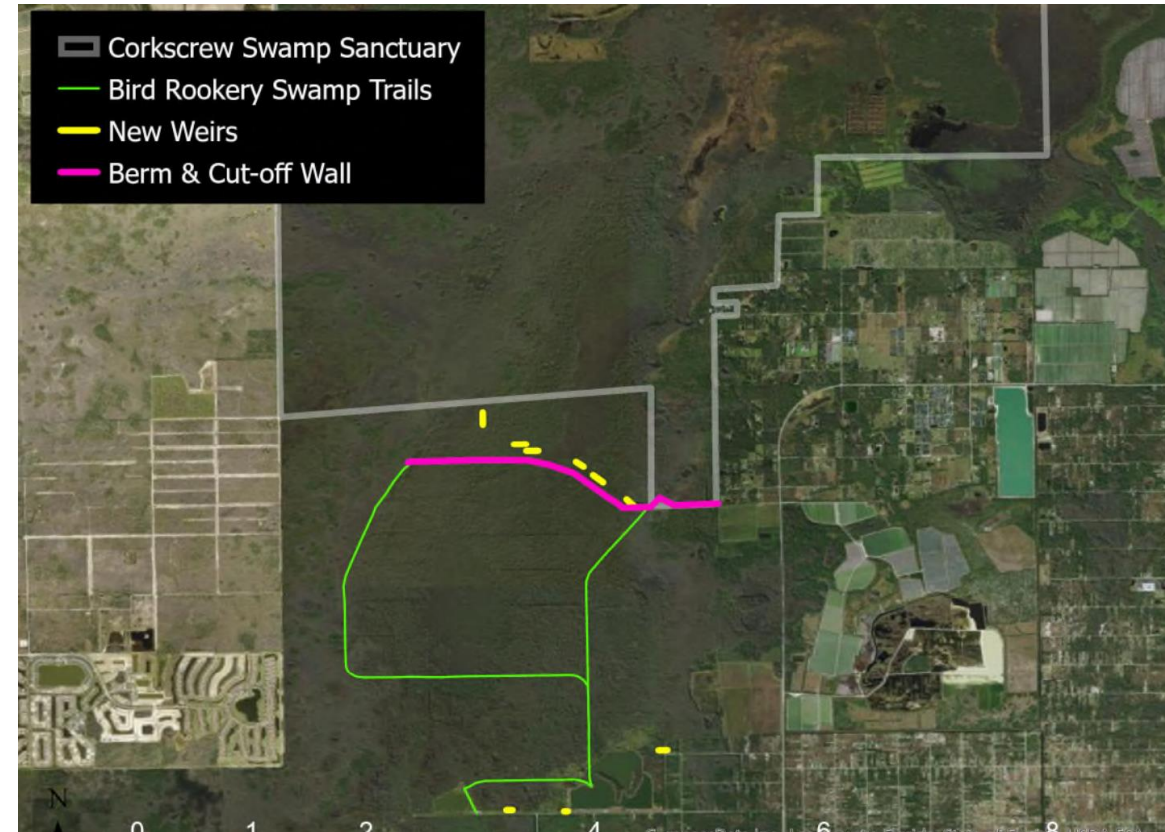
- Flint Pen Strand
- Bird Rookery Swamp
- Corkscrew Swamp Sanctuary
- Corkscrew Marsh
- Camp Keais Strand



NEXT STEPS

BCB Board Interest in Detailed Comprehensive Hydrologic Study of Corkscrew System

- Data acquisition (2022 – ongoing)
- Tool preparation and development (2021 – 2023)
- Public planning process with extensive partner and public engagement (2024 - 2026)
- Identify and evaluate projects and restoration/adaptation concepts with flood resiliency (2025 – 2027+)
- Early implementation



Possible restoration or adaptation concepts (Audubon Presentation 2/25/2021)

Summary of Activities

✓	▪ BCB – Flood Protection Level of Service	Completed (2018)
✓	▪ Lower West Coast Water Supply Plan Updates	Completed (2022)
✓	▪ Corkscrew Swamp Sanctuary Model	Completed (2021)
✓	▪ BCB Audubon Collaboration	
✓	• Expanded topographic surveys	Completed (2022)
✓	• Installation of additional water level monitoring sites	Completed (2022)
	• Hydrogeologic sensitivity assessment	Ongoing (2023)
	• Groundwater contour mapping & additional monitoring siting	Ongoing (2023)
	▪ BCB Regional Watershed Model Update	Ongoing (2023)
	▪ Initiate regional comprehensive Corkscrew study (2024 - 2026)	Spinning up
	▪ Identify and evaluate projects and restoration concepts (2025 – 2027)	Not yet started
	▪ Early restoration project implementation (2026 – 2028+)	Not yet started
	▪ Corkscrew Canal Headwater Improvements Construction (2027 - 2029)	Not yet started

What To Expect Going Forward

- Engage partners to finalize collaboration and study approach
- Complete tool development and release for application (Ongoing)
- Secure study resources – budget, staffing and project timeframe (Ongoing)
- Initiate study (FY24)
- Periodic updates to the board on study status

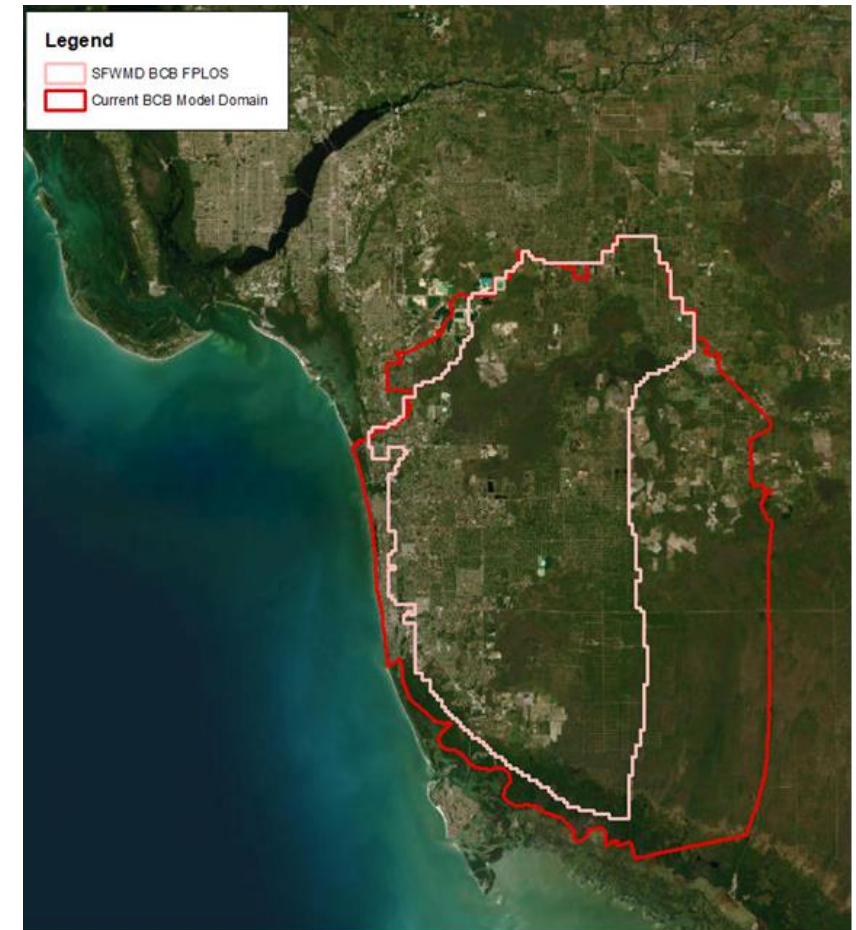


BCB Watershed Model Update Project – Objective & Scope

- Update the BCB FPLOS model from version 2014 to 2022
- Improve the coastal representation and expand model domain (640 sq miles to 1,060 sq. miles)
- Update the DEM with the latest LiDAR and survey data
- Calibrate the model to both long-term, and storm event simulations

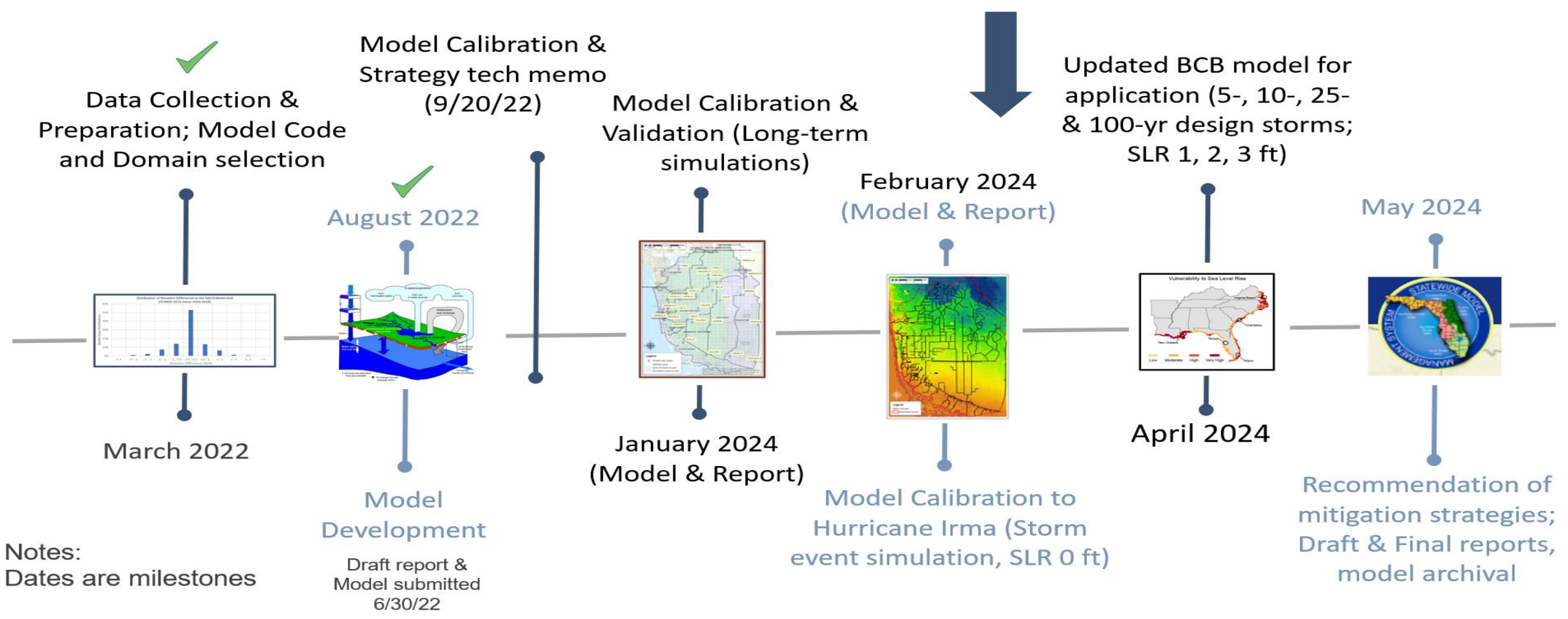
Post model development

- Tool available for multiple purposes in Collier County and BCB starting with the Corkscrew initiative



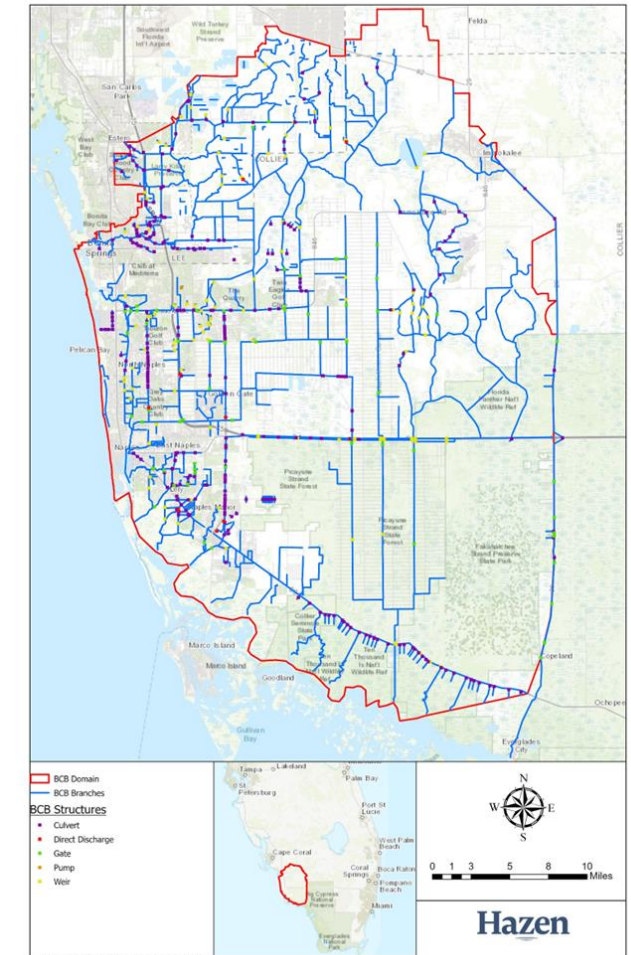
BCB Watershed Model Update Project

BCB Model Update: Project Timeline



BCB Watershed Model Update Project - Project Status

- Data Collection - completed
- Model Development – completed
- Model Calibration –
 - Long-term calibration is on-going
 - Storm event calibration is on-going
- Updated BCB Model for Storm Event Application - upcoming



Comprehensive Study
Kim Fikoski, Lead Project Manager

Corkscrew Watershed Initiative



Big Cypress Basin 2023-2028 Strategic Plan

RESTORATION OF WATER RESOURCES AND ECOSYSTEMS • WATER SUPPLY
FLOOD PROTECTION • PUBLIC ENGAGEMENT AND ADMINISTRATION

This document provides the Big Cypress Basin and the public it serves a blueprint to successfully achieve balanced regional water resource management for the next five years and beyond.

Big Cypress Basin resources are focused on safeguarding and restoring Southwest Florida's water resources and ecosystems while protecting communities from flooding and meeting the region's present and future water supply needs.

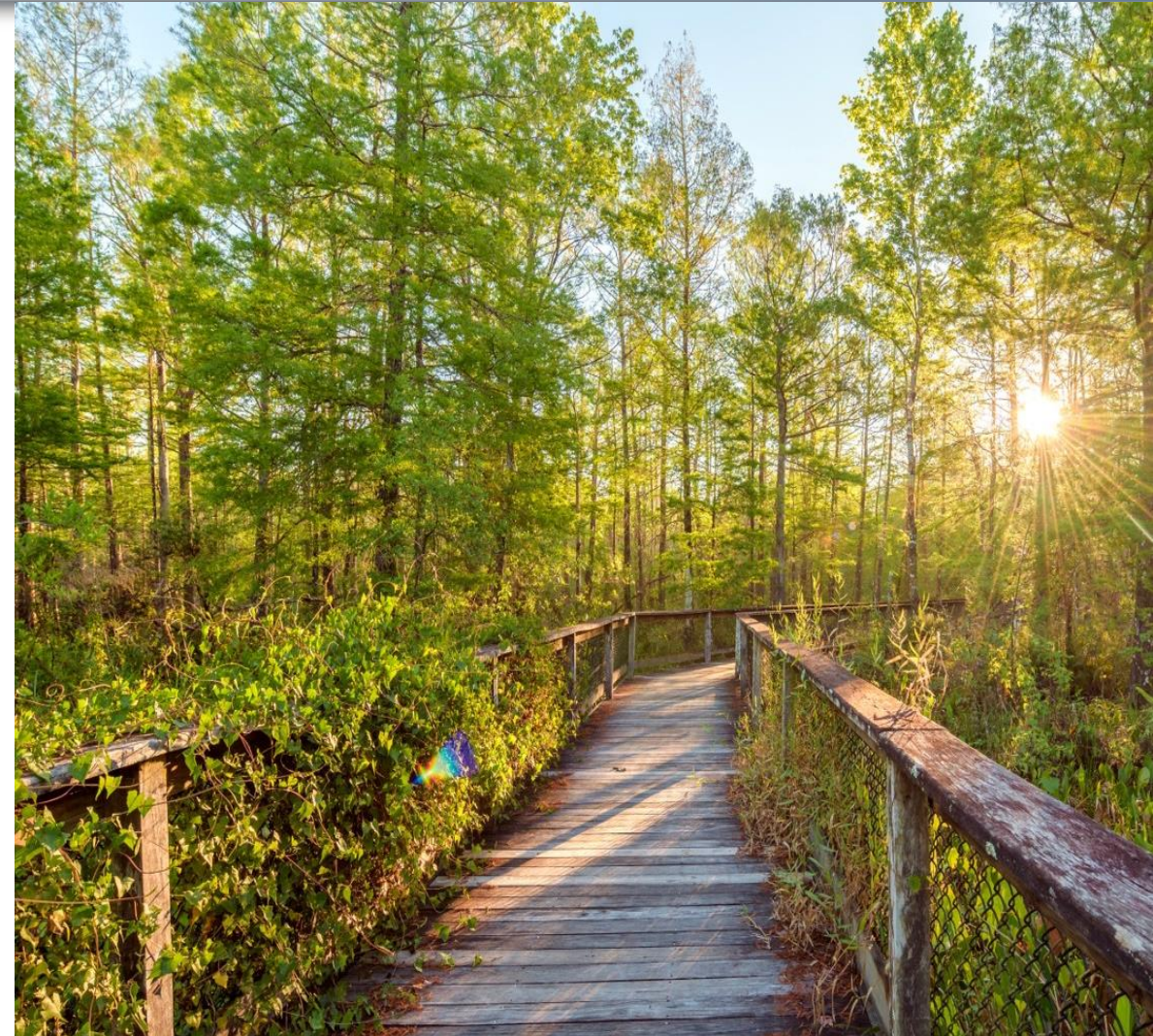
The commitments and strategies in this document will be put into action in order to make a positive impact.



- Supports BCB Primary Core Missions
 - Restoration of Water Resources & Ecosystems
 - Flood Control
 - Meet region's water needs
 - Connect with the public & stakeholders
- Project development: scope, budget, staff/stakeholder/consultant selection
- Initiate project early 2024 - 2026
- Periodic updates to BCB Board

Corkscrew Watershed Initiative Process

- Information collection & review
- Determine goals & performance metrics
- Generate initial list of projects for modeling
 - evaluate - select ones that meet goals
- Identify “low hanging fruit” projects
- Refine projects in one or two rounds of modeling
- Preliminary engineering and cost analysis
- Sequence the projects
- Finalize projects in a Tentatively Selected Plan (TSP) to recommend to BCB board



QUESTIONS



Bird Roosters Swamp boardwalk