

A group of longnose sturgeons are swimming in a tank. The fish are long, slender, and have a distinctive bumpy texture on their heads. They are swimming in a dark, dimly lit environment with large pieces of driftwood and rocks. The text "Fisheries Restoration and Mercury Abatement Project at the Miccosukee Tribe" is overlaid in white on the image.

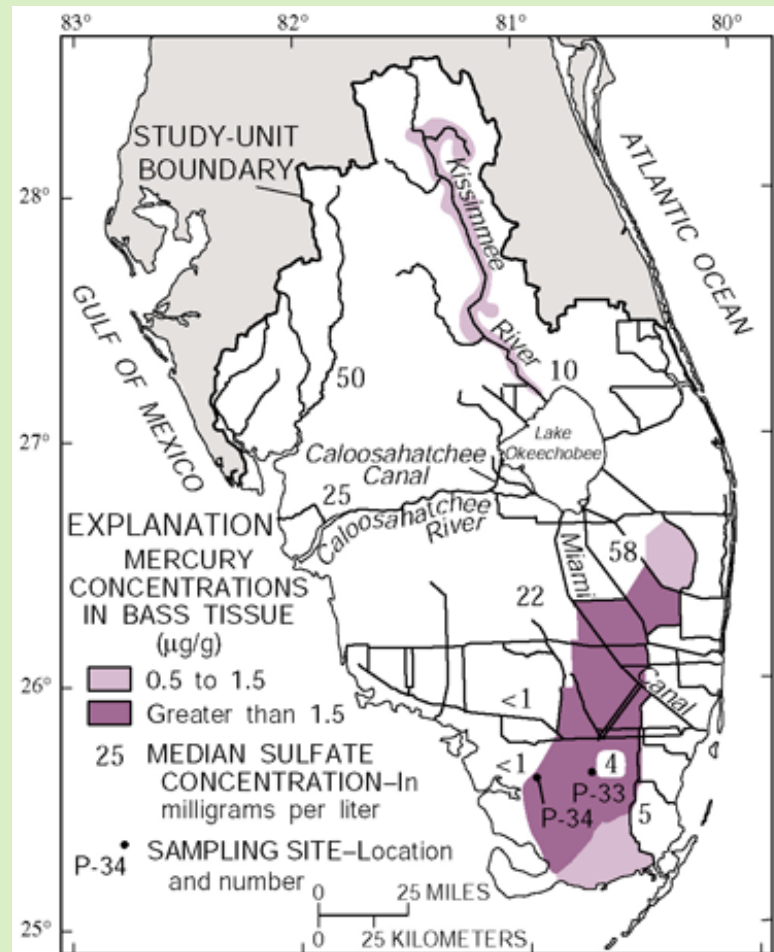
Fisheries Restoration and  
Mercury Abatement Project at  
the Miccosukee Tribe

# Background Information

- Mercury contamination at the Tribe.
- Traditional use and Tribal needs.
- Natural occurrence and added sources.
- Mercury Hot Spot in the Everglades.
- Mercury accumulation and correlation with incinerators.
- Management structure and societal values.
- Status of native populations.



# Methyl Mercury in Bass



- Electro fishing



# Phase One

- Determination of the magnitude of the problem. (Average Methyl Mercury in fish over 0.9 ppm) (LMB 3 yrs of age, 0.7 ppm)
- Design of solution strategy. (MFMP)
- Getting the agencies on board.
- Moving forward in partnership.

# Phase Two

- Community involvement and Tribal Needs.
- Permitting and certifications.
- Controls testing.
- Disposal research.
- Community awareness and involvement.

- Community involvement and certification





A large school of diverse, colorful fish swimming in an aquarium tank. The fish are of various species and colors, including blue, yellow, orange, and silver. They are swimming in a dark, rocky environment. The text "Phase Three" is overlaid on the top right of the image.

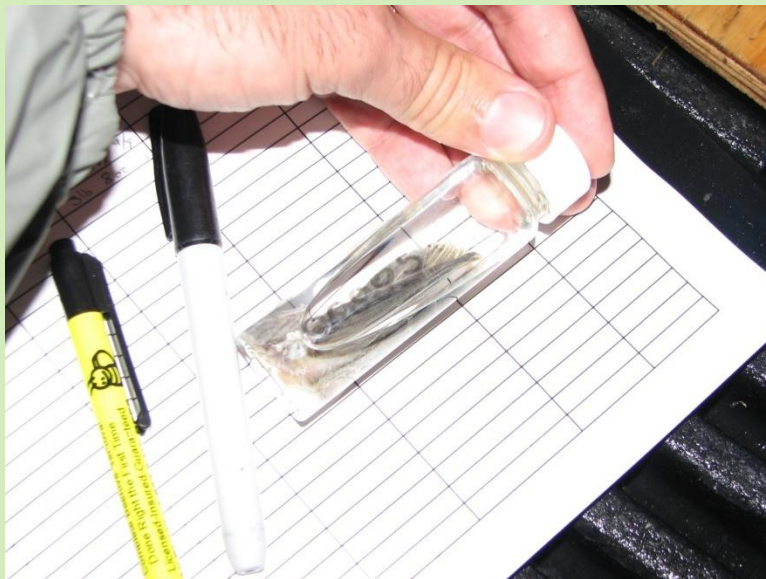
# Phase Three

- Physical restoration
- Aeration set up.
- Plant control.
- Fish control.
- Restocking Natives.
- Implementation of MFMP.

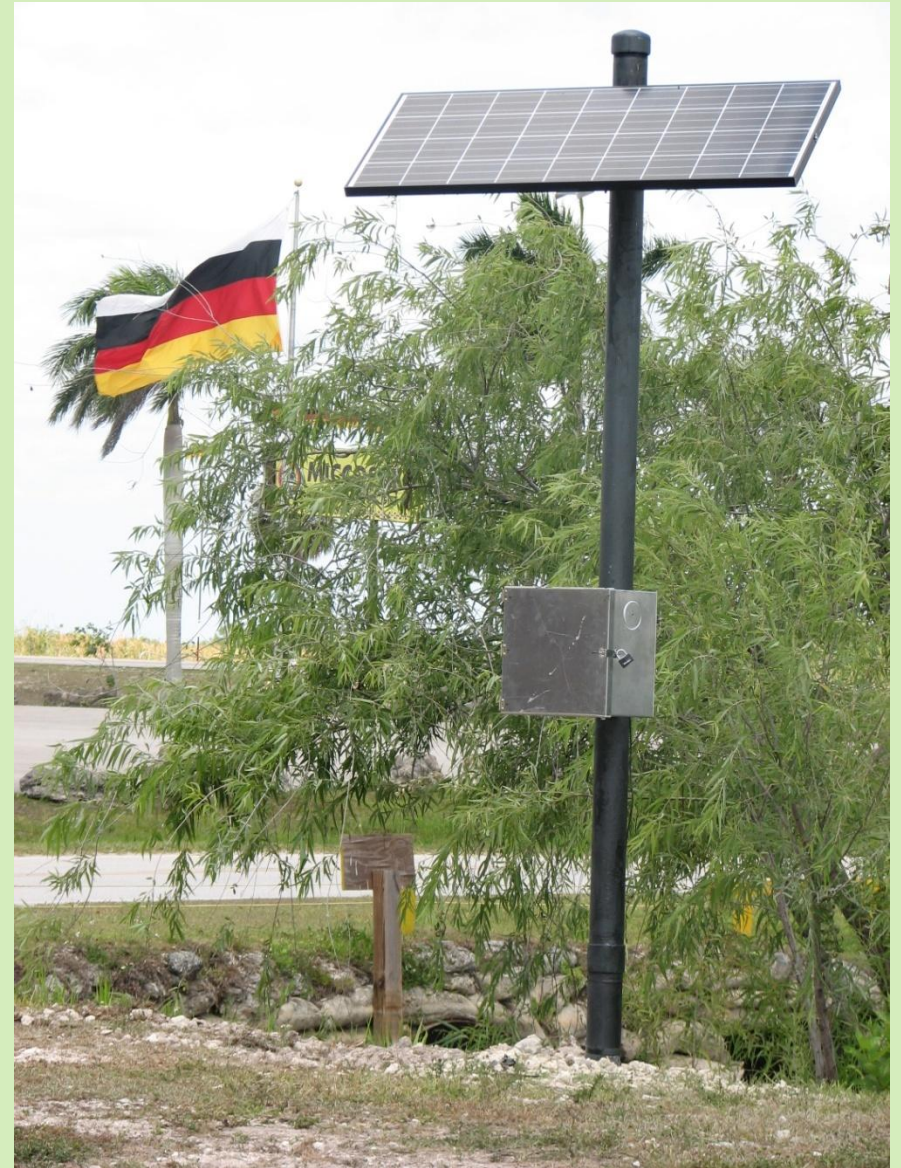
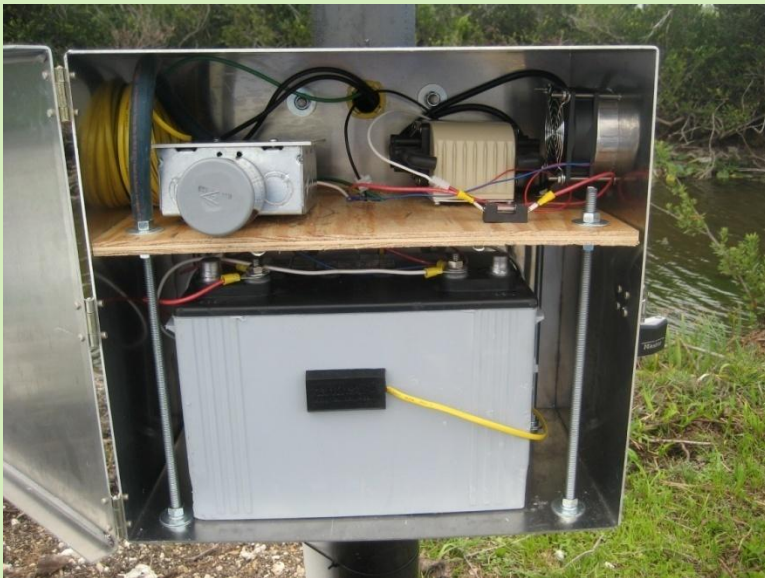
# Native Fish Studies



# Fish Control



# AERATION



BEFORE



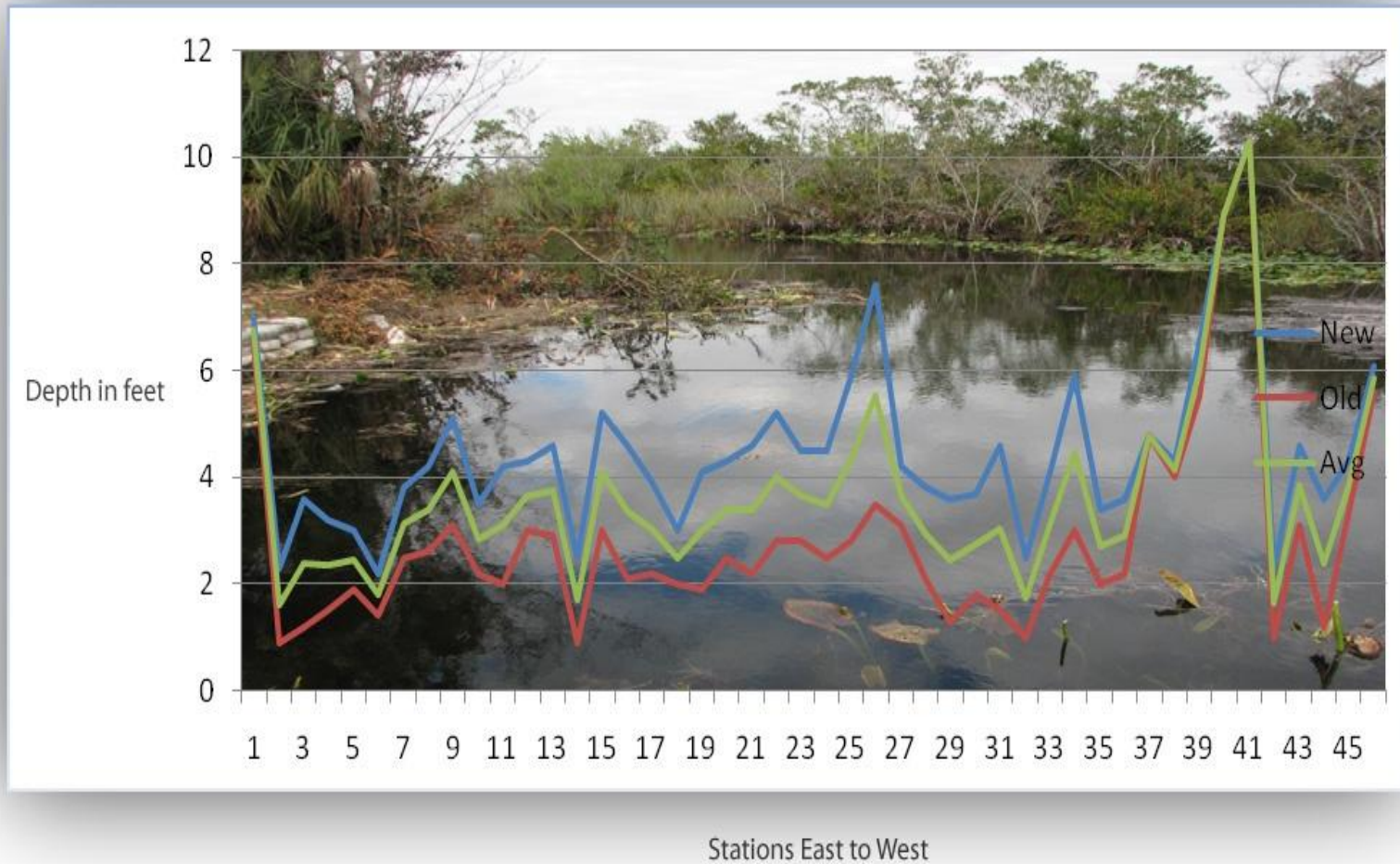
AFTER



# Results

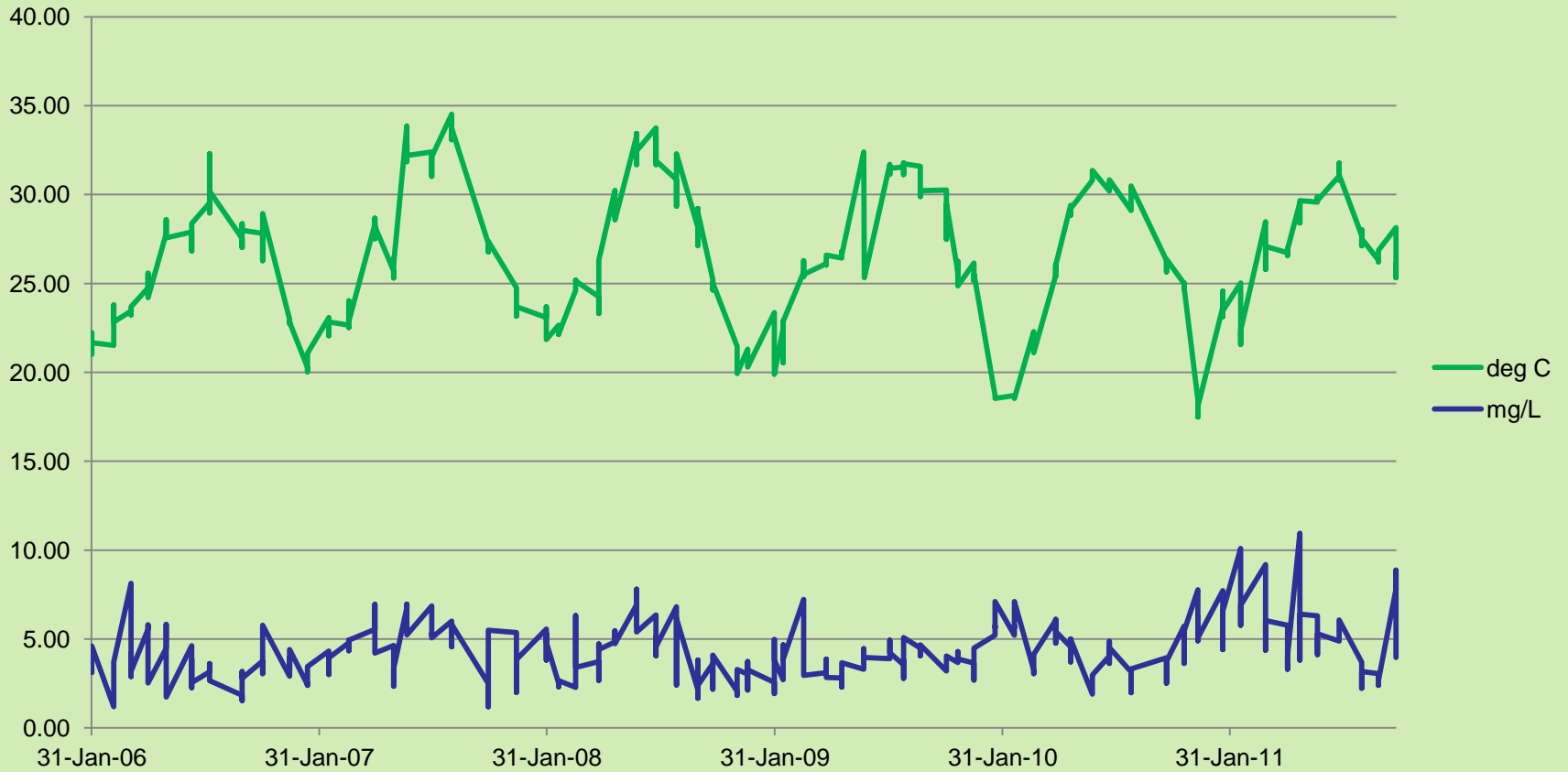
- Over 4,500 cubic yards of aquatic vegetation removed from canal.
- Considerable amount of non-aquatic exotic vegetation was also removed (i.e. Brazilian pepper, melaleuca sp.)
- 6 tons of exotic fish removed.
- Applied successfully the composting and reutilization of nutrients extracted from the canal by forced air composting.
- To date approximately 15,000 native mercury safe fish restocked (sunfish: 30% red ear, 70% blue gill, ~200 large mouth bass).
- Spring 2010: Additional bass and introduction of garfish.
- Average mercury reading after 3 years of restocking is barely 0.2 ppm of methyl Mercury in (LMB) compared to the initial 0.7 ppm.

# Depth of canal





# Temp and O2



# Benefits and Future

- Reestablishment of a fisheries resource that is mercury safe.
- Set an example for oligotrophic fisheries management that is not only game fish oriented.
- Development of a sustainable safe source of protein.
- Rescue other species displaced from the Miccosukee lands by development.



"There are no other Everglades in the world. They are, they have always been, one of the unique regions of the earth; remote, never wholly known. Nothing anywhere else is like them..."

Marjory Stoneman Douglas

This research was done in partnership with Nicholls University and US FWS

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