

National Park Service

Everglades National Park - South Florida Natural Resources Center



Water Quality Issues and the Combined Structural and Operational Plan

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**CSOP Advisory Team
Briefing
Jan. 29, 2004**



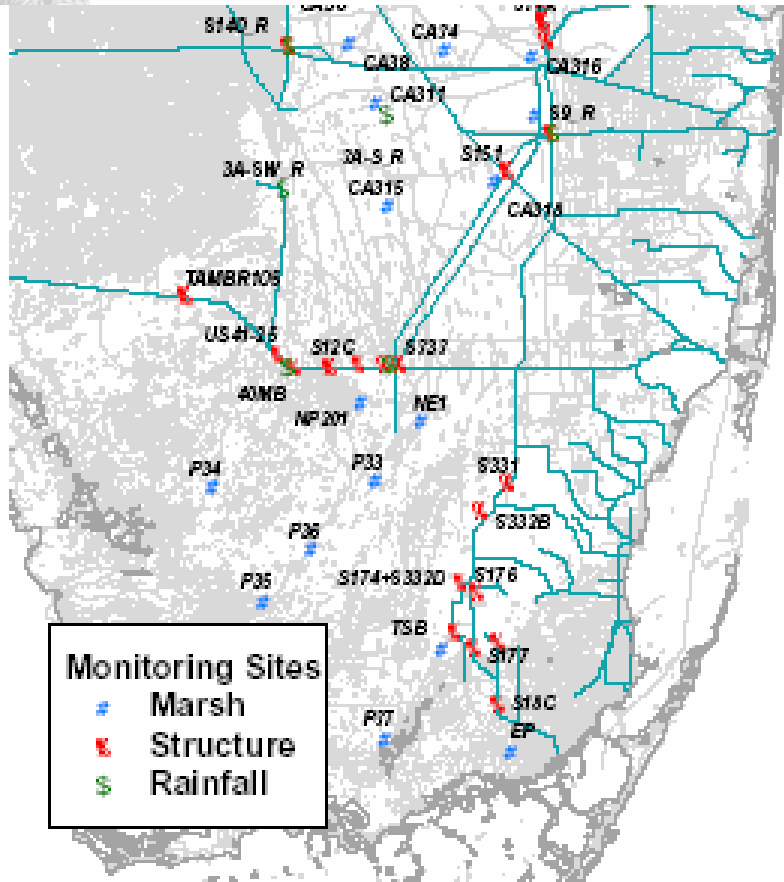
Water Quality Concerns

- Everglades plants and animals thrive under extraordinarily low nutrient levels, and very small increases in phosphorus (at the ppb level) result in significant harm (imbalances in native flora/fauna).
- Phosphorus enrichment from agricultural and urban runoff has affected significant portions of the Everglades, and many areas have become dominated by nutrient-tolerant species.
- Over \$50-million in State/Federal Water Quality research has shown that total phosphorus concentrations greater than 10 ppb result in:
 - shifts of periphyton community types, and a loss of native marl-forming periphyton;
 - decreases in dissolved oxygen content;
 - increased dominance of nutrient-tolerant plants and animals;
 - changes in food web structure, and a loss of biological diversity.



Water Quality Monitoring/Compliance

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- Everglades National Park was designated an Outstanding Florida Water (OFW) in 1979, which established an anti-degradation standard for the water entering ENP.
- The Settlement Agreement to the 1988 State/Federal Water Quality lawsuit established specific phosphorus limits for Shark Slough, Taylor Slough, and the Eastern Panhandle Basins of ENP (Hoeveler 1991).

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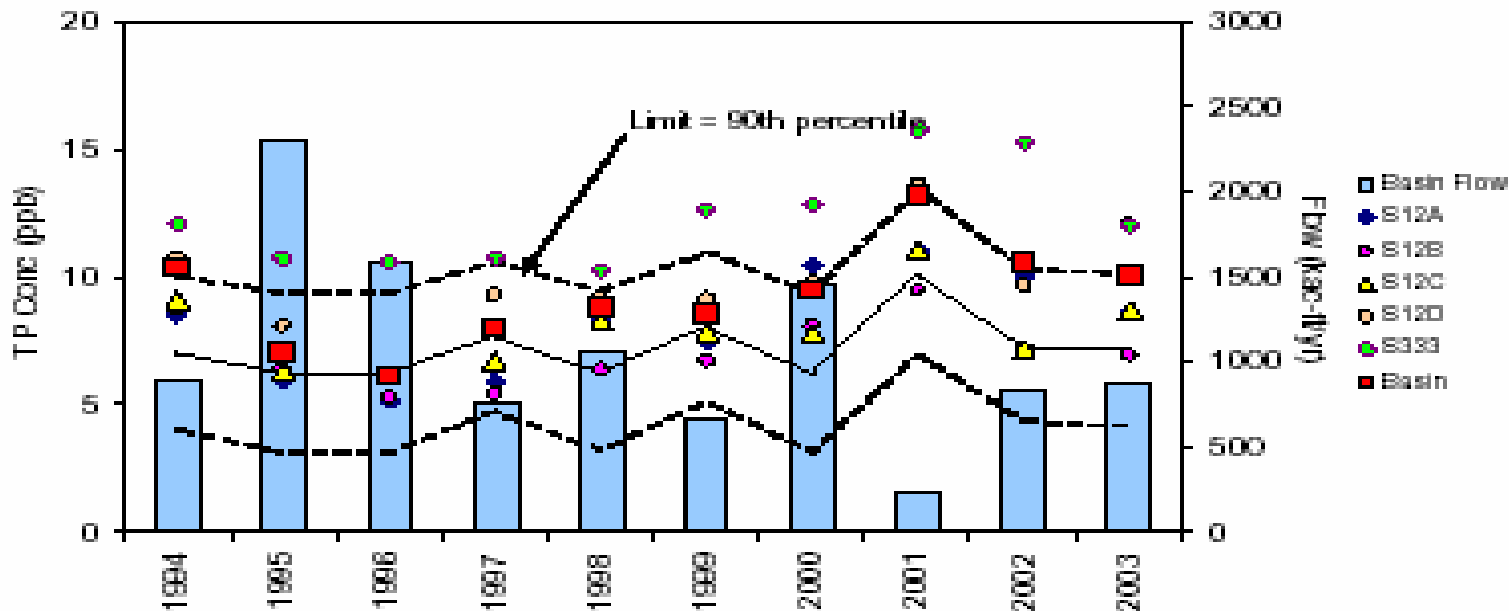
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Phosphorus Limits for Shark Slough

- The objective of the OFW standard is to maintain the water quality conditions that occurred in the basin during the 1978-1979 base period.
- The interim limit for total phosphorus represents the 90th percentile of the observed data for the 1978-1979 period, while the target represents the 50th percentile for this period.



Source: William Walker
Preliminary Draft NPS
IOP Report, 2004

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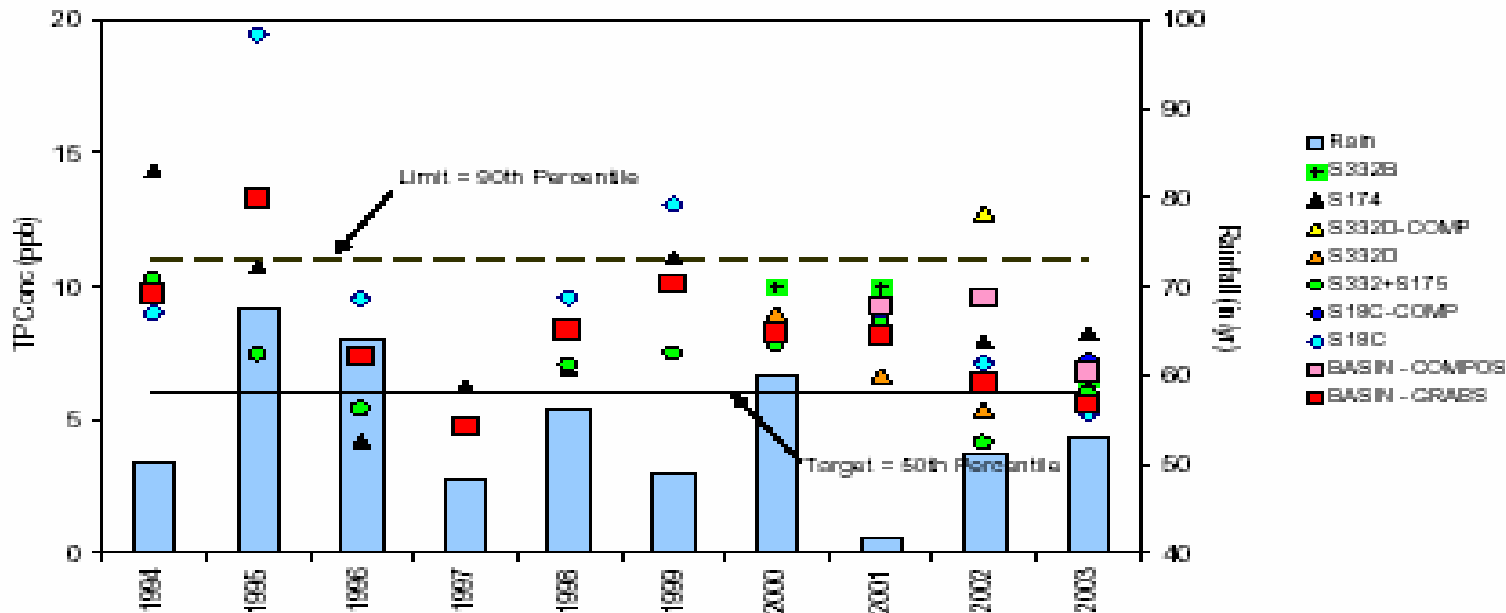
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Phosphorus Limits for Taylor Slough and the Eastern Panhandle Basins

- The objective of the OFW standard is the same, to maintain the conditions that occurred during the 1983-1984 base period.
- A fixed phosphorus limit of 11 ppb is applied to the combined inflows for these two basins, which represents the 90th percentile of the observed data for the 1983-1984 period.



Source: William Walker
Preliminary Draft NPS
IOP Report, 2004