Shark River Slough Method 1.5 Proposal

Concept:

- Approximate "additional inflow" from WCAs to Shark River Slough (SRS) at S-356
- Similar approach as S333/S334 using multiple stations flow combined with single station's TP
- Estimate portion of volume at S-356 to SRS from WCAs (exclude seepage return and local runoff)
- Incorporate sampling event TP based upon concentration grab monitoring at S-356

Application:

- Long-term Limit – Total flow volume (all days) for Federal Water Year (FWY, October-September) estimated to SRS from the WCAs, including portion of S-356 flow through S-335 estimated daily
  - Minimum of daily flow volume at S-335 and S-356
- TP flow-weighted mean concentration (FWMC) - integrate the estimated sampling event flow and TP to the WY TP FWMC (bi-weekly compliance sampling)
  - Sampling event flows as determined above and TP at S-356 (S356-S334 water quality station)

Existing (Method 1)

- Annual Long-term Limit (sum of all WY days) = S12s + S333 +S355A + S355B

- TP FWMC calculation (bi-weekly compliance sampling events):
  Volume for FWMC (sampling events) = S12s + S333 + S355A + S355B - S334
  Sampling event TP FWMC = sum of the following divided by "Volume for FWMC"
  - S12A TP * S12A flow
  - S12B TP * S12B flow
  - S12C TP * S12C flow
  - S12D TP * S12D flow
  - S333 TP * S333 flow * fraction of L-29E inflows to SRS
  - S355A TP * S355A flow * fraction of L-29E inflows to SRS
  - S355B TP * S355B flow * fraction of L-29E inflows to SRS
  - $\text{Fraction of L} - \text{29E to SRS} = \frac{(\text{S333} + \text{S355A} + \text{S355B} - \text{S334})}{(\text{S333} + \text{S355A} + \text{S355B})}$

Proposed (Method 1.5)

- Annual Long-term Limit (sum of all FWY days) = S12s + S333 + S355A + S355B + MIN(S356, S335)

- TP FWMC calculation (bi-weekly compliance sampling events):
  Volume for FWMC (sampling events) = S12s + S333 +S355A + S355B + MIN(S356, S335) - S334
  Sampling event TP FWMC = sum of the following divided by "Volume for FWMC"
  - S12A TP * S12A flow
  - S12B TP * S12B flow
  - S12C TP * S12C flow
  - S12D TP * S12D flow
  - S333 TP * S333 flow * fraction of L-29E inflows to SRS
  - S355A TP * S355A flow * fraction of L-29E inflows to SRS
  - S355B TP * S355B flow * fraction of L-29E inflows to SRS
  - **S356 TP * MIN(S356, S335) * fraction of L-29E inflows to SRS**
  - $\text{Fraction of L} - \text{29E to SRS} = \frac{(\text{S333} + \text{S355A} + \text{S355B} + \mathbf{MIN}(\mathbf{S356},\mathbf{S335}) - \text{S334})}{(\text{S333} + \text{S355A} + \text{S355B} + \mathbf{MIN}(\mathbf{S356},\mathbf{S335}))}$