

# Tamiami Trail Flow Formula (TTFF) - Target Flow from WCA-3A to ENP

Daily Target Flow for

12/22/2020

to

12/28/2020

MAX cfs

## Observed Stage Data

| Station                                 | Variable            | on | 12/18/2020        | Unit      |
|-----------------------------------------|---------------------|----|-------------------|-----------|
| WCA-3A (Average for Site 63, 64 and 65) | Average Daily Stage |    | 12.09             | ft-NGVD29 |
| NESRS2                                  | Average Daily Stage |    | 8.09 <sup>3</sup> | ft-NGVD29 |
| Regulatory Stage WCA-3A                 | Stage               |    | 10.50             | ft-NGVD29 |

## Observed Flow Data

| Station                          | Variable                 | From | 12/12/2020 | to | 12/18/2020 | Value | Unit |
|----------------------------------|--------------------------|------|------------|----|------------|-------|------|
| S-12A                            | 7-day Average Daily Flow |      |            |    |            | 1171  | cfs  |
| S-12B                            | 7-day Average Daily Flow |      |            |    |            | 1100  | cfs  |
| S-12C                            | 7-day Average Daily Flow |      |            |    |            | 1639  | cfs  |
| S-12D                            | 7-day Average Daily Flow |      |            |    |            | 2238  | cfs  |
| S-333                            | 7-day Average Daily Flow |      |            |    |            | 116   | cfs  |
| S-333N                           | 7-day Average Daily Flow |      |            |    |            | N/A   | cfs  |
| S-334                            | 7-day Average Daily Flow |      |            |    |            | 59    | cfs  |
| S-12s Total                      | 7-day Average Daily Flow |      |            |    |            | 6149  | cfs  |
| S333 + S333N - S334 <sup>1</sup> | 7-day Average Daily Flow |      |            |    |            | 57    | cfs  |
| Total Flow to ENP                | 7-day Average Daily Flow |      |            |    |            | 6206  | cfs  |

## Meteorological Data

| Forecasted                                           | From | 12/19/2020 | to | 12/25/2020 | Value | Unit |
|------------------------------------------------------|------|------------|----|------------|-------|------|
| WCA3 7-day Quantitative Precipitation Forecast (QPF) |      |            |    |            | 0.27  | in   |
| 3AS3WX - 7-day Total Forecasted PET                  |      |            |    |            | 0.73  | in   |
| Observed                                             | From | 12/12/2020 | to | 12/18/2020 | Value | Unit |
| WCA-3 7-day Total Observed NEXRAD Rainfall           |      |            |    |            | 0.08  | in   |
| 3AS3WX 7-day Total Observed PET                      |      |            |    |            | 0.73  | in   |

## TTFF Application

|   |                                                                          |     |     |
|---|--------------------------------------------------------------------------|-----|-----|
| 1 | Previous week target flow (calculated with forecasted 7-day QPF and PET) | MAX | cfs |
| 2 | Previous week target flow (recalculated with observed rainfall and PET)  | MAX | cfs |
| 3 | Adjustment for forecast (2-1)                                            | 0   | cfs |
| 4 | This week calculated target flow                                         | MAX | cfs |
| 5 | This week target flow with adjustment (3 + 4)                            | MAX | cfs |

Average Daily Target Flow<sup>2</sup>

MAX cfs

| TTFF formula coefficients |                   |                                  |                             |                   |                                |
|---------------------------|-------------------|----------------------------------|-----------------------------|-------------------|--------------------------------|
| WCA-3A Average Stage (β1) | NESRS2 Stage (β2) | Previous 7-day Average Flow (β3) | Forecast Precipitation (β4) | Forecast PET (β5) | Regulation Schedule Stage (β6) |
| 318.42                    | -44.62            | 0.644                            | 24.32                       | -96.31            | -221.79                        |

Target flow is distributed from east to west (S-333, S-12D, S-12C, S-12B, and S-12A) to prioritize water deliveries to NESRS first and WSRS second, subject to downstream constraints.

<sup>1</sup>S-333 + S-333N - S-334 becomes zero if the sum of S-333 and S-333N is less than S-334 flow. Calculation is done daily.

<sup>2</sup>Actual discharges may vary from target discharges because of changing hydrologic conditions.

<sup>3</sup> Estimated.

## Flow from WCA-3A to Everglades National Park Using the Tamiami Trail Flow Formula

