WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow December 23, 2014 to December 29, 2014 29 cfs

S-12 Discharge 13 cfs
S-333 Discharge 16 cfs

------ Data Summary ------
December 12, 2014 to December 19, 2014

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.02</td>
<td>0.86</td>
</tr>
<tr>
<td>S-140</td>
<td></td>
<td>0.79</td>
</tr>
<tr>
<td>ENP</td>
<td></td>
<td>M</td>
</tr>
</tbody>
</table>

This Week's Avg 0.02 0.83
Pre-Project Avg 0.24 0.76

------ Transition Zone Information ------
WCA-3A is in Zone E
Discharge Coeff. (cfs/ft) = 5000
Supplemental discharge is 0 cfs
Distance to Bottom of Current Zone N/A feet
Distance to Top of Current Zone 0.08 feet

------ Statistical Parameters ------
Rainfall Formula Amount 29 cfs
Last Week's Rainfall Formula 46 cfs
Pre-Project Mean Discharge 321 cfs

Rainfall Excess Terms
RL1 -0.11
RL2 1.42
RL3 -4.61

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
Historical Rainfall

Rainfall Formula Amount

Maximum Discharge

SRS Discharge from Rainfall Plan

Deliveries to Shark River Slough

Computed by Rainfall Plan

Shark River Slough

Actual vs. Historical Rainfall

Actual Rainfall

Historical Rainfall

Data Week Ending

Operational Week Starting

Flow (CFS)
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow December 16, 2014 to December 22, 2014 46 cfs

S-12 Discharge 21 cfs
S-333 Discharge 25 cfs

------ Data Summary ------

December 5, 2014 to December 12, 2014

WCA-3A Stage (end of week) 10.22 ft. msl
Angel's 5.95 ft. msl
G3273 6.71 ft. msl

Station Rainfall (in) Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation 0.35 0.78

S-140 0.64
ENP M

This Week's Avg 0.35 0.71
Pre-Project Avg 0.24 0.78

------ Transition Zone Information ------

WCA-3A is in Zone E
Discharge Coeff. (cfs/ft) = 5000
Supplemental discharge is 0 cfs
Distance to Bottom of Current Zone N/A feet
Distance to Top of Current Zone 0.03 feet

------ Statistical Parameters ------

Rainfall Formula Amount 46 cfs
Last Week's Rainfall Formula 77 cfs
Pre-Project Mean Discharge 376 cfs

Rainfall Excess Terms
RL1 0.20
RL2 0.55
RL3 -5.45

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Target Flow: December 9, 2014 to December 15, 2014
546 cfs

S-12 Discharge 246 cfs
S-333 Discharge 300 cfs

----- Data Summary -----
November 28, 2014 to December 5, 2014

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<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tbody>
<tr>
<td>WCA-3A Stage (end of week)</td>
<td>10.31</td>
<td>ft. msl</td>
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<tr>
<td>Angel’s</td>
<td>5.99</td>
<td>ft. msl</td>
</tr>
<tr>
<td>G3273</td>
<td>6.74</td>
<td>ft. msl</td>
</tr>
</tbody>
</table>

This Week’s Avg 0.35 0.76
Pre-Project Avg

----- Transition Zone Information-----
WCA-3A is in Zone D
Discharge Coeff. (cfs/ft) = 5000
Supplemental discharge is 469 cfs
Distance to Bottom of Current Zone -0.09 feet
Distance to Top of Current Zone 0.19 feet

----- Statistical Parameters-----
Rainfall Formula Amount 77 cfs
Last Week’s Rainfall Formula 150 cfs
Pre-Project Mean Discharge 462 cfs
Rainfall Excess Terms
RL1 -0.16
RL2 -0.27
RL3 -5.71

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow  December 2, 2014 to December 8, 2014  742 cfs

S-12 Discharge  334 cfs
S-333 Discharge  408 cfs

-------- Data Summary --------  November 21, 2014 to November 28, 2014
WCA-3A Stage (end of week)  10.29 ft. msl
Angel's  5.91 ft. msl
G3273  6.74 ft. msl

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.15</td>
<td>0.95</td>
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<tr>
<td>S-140</td>
<td>0.85</td>
<td></td>
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<tr>
<td>ENP</td>
<td>M</td>
<td></td>
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</table>

This Week's Avg  0.15  0.90
Pre-Project Avg  0.29  0.82

----- Transition Zone Information -----  WCA-3A is in Zone D
Discharge Coeff. (cfs/ft) = 5000
Supplemental discharge is  592 cfs
Distance to Bottom of Current Zone  -0.12 feet
Distance to Top of Current Zone  0.21 feet

----- Statistical Parameters -----  
Rainfall Formula Amount  150 cfs
Last Week's Rainfall Formula  245 cfs
Pre-Project Mean Discharge  566 cfs
Rainfall Excess Terms
RL1  -0.26  RL2  -1.42  RL3  -5.40

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
Shark River Slough
Actual vs. Historical Rainfall

Actual vs. Historical Rainfall
Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow November 25, 2014 to December 1, 2014 1309 cfs

S-12 Discharge 589 cfs
S-333 Discharge 720 cfs

----- Data Summary -----

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.32</td>
<td>0.71</td>
</tr>
<tr>
<td>S-140</td>
<td>1.17</td>
<td></td>
</tr>
<tr>
<td>ENP</td>
<td>M</td>
<td></td>
</tr>
</tbody>
</table>

This Week's Avg 0.32 0.94
Pre-Project Avg 0.32 0.87

----- Transition Zone Information-----

WCA-3A is in Zone D
Discharge Coeff. (cfs/ft) = 5000

Supplemental discharge is 1064 cfs
Distance to Bottom of Current Zone -0.21 feet
Distance to Top of Current Zone 0.16 feet

----- Statistical Parameters -----  
Rainfall Formula Amount 245 cfs
Last Week's Rainfall Formula 207 cfs
Pre-Project Mean Discharge 689 cfs

Rainfall Excess Terms
RL1 1.58
RL2  -4.61
RL3  -4.67

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
**PRELIMINARY WCA-3A RAINFALL-BASED MANAGEMENT PLAN**

**Target Flow** November 25, 2014 to December 1, 2014 864 cfs

<table>
<thead>
<tr>
<th>S-12 Discharge</th>
<th>S-333 Discharge</th>
</tr>
</thead>
<tbody>
<tr>
<td>389 cfs</td>
<td>475 cfs</td>
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### Data Summary

<table>
<thead>
<tr>
<th>November 14, 2014 to November 21, 2014</th>
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</thead>
<tbody>
<tr>
<td>WCA-3A Stage (end of week)</td>
</tr>
<tr>
<td>Angel's</td>
</tr>
<tr>
<td>G3273</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.19</td>
<td>1.02</td>
</tr>
<tr>
<td>S-140</td>
<td>1.35</td>
<td></td>
</tr>
<tr>
<td>ENP</td>
<td>M</td>
<td></td>
</tr>
</tbody>
</table>

This Week's Avg

| 0.19                          | 1.18 |

Pre-Project Avg

| 0.32                          | 0.87 |

---

### Transition Zone Information

WCA-3A is in Zone **D**

**Discharge Coeff. (cfs/ft) = 5000**

<table>
<thead>
<tr>
<th>Supplemental discharge is</th>
<th>864 cfs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance to Bottom of Current Zone</td>
<td>-0.17 feet</td>
</tr>
<tr>
<td>Distance to Top of Current Zone</td>
<td>0.20 feet</td>
</tr>
</tbody>
</table>

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### Statistical Parameters

<table>
<thead>
<tr>
<th>Rainfall Formula Amount</th>
<th>-467 cfs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Week's Rainfall Formula</td>
<td>-613 cfs</td>
</tr>
<tr>
<td>Pre-Project Mean Discharge</td>
<td>0 cfs</td>
</tr>
</tbody>
</table>

Rainfall Excess Terms

| RL1 1.26 | RL2 -4.61 | RL3 -4.67 |

**COMMENT:** S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

**NOTE:** Actual discharges may vary from target discharges because of changing hydrologic conditions.
Historical Rainfall
SRS Discharge from Rainfall Plan
Rainfall Formula Amount

Shark River Slough
Actual vs. Historical Rainfall

Minimum Delivery Schedule

Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow November 18, 2014 to November 24, 2014 1337 cfs

S-12 Discharge 602 cfs
S-333 Discharge 735 cfs

------- Data Summary -------
November 7, 2014 to November 14, 2014

WCA-3A Stage (end of week) 10.35 ft. msl
Angel's 5.81 ft. msl
G3273 6.64 ft. msl

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>2.09</td>
<td>0.97</td>
</tr>
<tr>
<td>S-140</td>
<td>0.98</td>
<td></td>
</tr>
<tr>
<td>ENP</td>
<td>M</td>
<td></td>
</tr>
</tbody>
</table>

This Week's Avg 2.09 0.97
Pre-Project Avg 0.40 0.91

----- Transition Zone Information -----  
WCA-3A is in Zone D Discharge Coeff. (cfs/ft) = 5000
Supplemental discharge is 1337 cfs
Distance to Bottom of Current Zone -0.27 feet
Distance to Top of Current Zone 0.15 feet

----- Statistical Parameters -----  
Rainfall Formula Amount -613 cfs
Last Week's Rainfall Formula -738 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 0.81 RL2 -5.45 RL3 -1.28

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow November 11, 2014 to November 17, 2014 1209 cfs

S-12 Discharge 544 cfs
S-333 Discharge 665 cfs

----- Data Summary -----
October 31, 2014 to November 7, 2014

WCA-3A Stage (end of week) 10.28 ft. msl
Angel’s 5.87 ft. msl
G3273 6.68 ft. msl

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.03</td>
<td>1.22</td>
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<tr>
<td>S-140</td>
<td>1.47</td>
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<td>ENP</td>
<td>M</td>
<td></td>
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</tbody>
</table>

This Week’s Avg 0.03 1.34
Pre-Project Avg 0.56 0.97

----- Transition Zone Information ----- WCA-3A is in Zone D Discharge Coeff. (cfs/ft) = 5000
Supplemental discharge is 1209 cfs
Distance to Bottom of Current Zone -0.24 feet
Distance to Top of Current Zone 0.22 feet

----- Statistical Parameters ----- Rainfall Formula Amount -738 cfs
Last Week’s Rainfall Formula -707 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 -1.85 RL2 -5.71 RL3 -0.56

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
### WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow** November 4, 2014 to November 10, 2014  
2032 cfs

<table>
<thead>
<tr>
<th>S-12 Discharge</th>
<th>914 cfs</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-333 Discharge</td>
<td>1117 cfs</td>
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<table>
<thead>
<tr>
<th>Data Summary</th>
<th>October 24, 2014 to October 31, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>WCA-3A Stage (end of week)</td>
<td>10.40 ft. msl</td>
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<tr>
<td>Angel's</td>
<td>6.17 ft. msl</td>
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<tr>
<td>G3273</td>
<td>6.84 ft. msl</td>
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<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.06</td>
<td>1.22</td>
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<tr>
<td>S-140</td>
<td>1.23</td>
<td></td>
</tr>
<tr>
<td>ENP</td>
<td>M</td>
<td></td>
</tr>
</tbody>
</table>

| This Week's Avg | 0.06 | 1.22 |
| Pre-Project Avg | 0.92 | 1.02 |

### Transition Zone Information

WCA-3A is in Zone D

- Supplemental discharge is 2032 cfs
- Distance to Top of Zone E -0.41 feet
- Distance to Bottom of Regulatory Zone 0.10 feet

### Statistical Parameters

| Rainfall Formula Amount | -707 cfs |
| Last Week's Rainfall Formula | -652 cfs |
| Pre-Project Mean Discharge | 0 cfs |

| Rainfall Excess Terms | RL1 -2.23 | RL2 -5.40 | RL3 -0.55 |

**COMMENT:** S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE:* Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow  October 28, 2014  to  November 3, 2014  MAX  cfs
S-12 Discharge  MAX  cfs  S-333 Discharge  MAX  cfs

-------- Data Summary --------  October 17, 2014  to  October 24, 2014
WCA-3A Stage (end of week)  10.51  ft. msl
Angel's  6.52  ft. msl
G3273  6.95  ft. msl

Station  Rainfall (in)  Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation  0.13  1.11
S-140  1.38
ENP  M

This Week's Avg  0.13  1.25
Pre-Project Avg  1.19  1.06

----- Transition Zone Information -----  WCA-3A is in Zone  A
Supplemental discharge is  MAX  cfs
Distance to Top of Zone E  -0.56  feet
Distance to Bottom of Regulatory Zone  -0.06  feet

----- Statistical Parameters -----  Rainfall Formula Amount  -652  cfs
Last Week's Rainfall Formula  -560  cfs
Pre-Project Mean Discharge  0  cfs

Rainfall Excess Terms  RL1  -2.75  RL2  -4.67  RL3  -0.71

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow October 21, 2014 to October 27, 2014 MAX cfs

S-12 Discharge MAX cfs
S-333 Discharge MAX cfs

------ Data Summary ------

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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</thead>
<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7</td>
<td>0.11</td>
<td>1.46</td>
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<tr>
<td>and S7 evaporation</td>
<td></td>
<td></td>
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<tr>
<td>S-140</td>
<td></td>
<td>1.49</td>
</tr>
<tr>
<td>ENP</td>
<td></td>
<td>M</td>
</tr>
</tbody>
</table>

This Week’s Avg
Pre-Project Avg

----- Transition Zone Information ----- WCA-3A is in Zone A
Supplemental discharge is MAX cfs
Distance to Top of Zone E -0.67 feet
Distance to Bottom of Regulatory Zone -0.16 feet

----- Statistical Parameters ----- Rainfall Formula Amount -560 cfs
Last Week’s Rainfall Formula -432 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms

RL1 -3.22
RL2 -1.28
RL3 -3.06

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow October 14, 2014 to October 20, 2014 MAX cfs
S-12 Discharge MAX cfs
S-333 Discharge MAX cfs

-------- Data Summary --------
October 3, 2014 to October 10, 2014

Station 
WCA-3A Stage (end of week) 10.61 ft. msl
Angel’s 6.77 ft. msl
G3273 7.00 ft. msl

Station Rainfall (in) Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation 0.12 1.22

S-140 1.40
ENP M

This Week's Avg 0.12 1.31
Pre-Project Avg 1.67 1.16

----- Transition Zone Information ----- 
WCA-3A is in Zone A
Supplemental discharge is MAX cfs
Distance to Top of Zone E -0.75 feet
Distance to Bottom of Regulatory Zone -0.25 feet

----- Statistical Parameters ----- 
Rainfall Formula Amount -432 cfs
Last Week's Rainfall Formula -306 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 -2.96 RL2 -0.56 RL3 -1.06

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

<table>
<thead>
<tr>
<th>Target Flow</th>
<th>October 7, 2014 to October 13, 2014</th>
<th>MAX cfs</th>
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<tbody>
<tr>
<td>S-12 Discharge</td>
<td>MAX cfs</td>
<td></td>
</tr>
<tr>
<td>S-333 Discharge</td>
<td>MAX cfs</td>
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-------- Data Summary --------

<table>
<thead>
<tr>
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<th>September 26, 2014 to October 3, 2014</th>
<th>MAX cfs</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>WCA-3A Stage (end of week)</td>
<td>10.62 ft. msl</td>
</tr>
<tr>
<td>Angel's</td>
<td></td>
<td>7.01 ft. msl</td>
</tr>
<tr>
<td>G3273</td>
<td></td>
<td>7.16 ft. msl</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.73</td>
<td>1.49</td>
</tr>
<tr>
<td>S-140</td>
<td>1.28</td>
<td></td>
</tr>
<tr>
<td>ENP</td>
<td>M</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>This Week's Avg</th>
<th>Pre-Project Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.73</td>
<td>1.88</td>
</tr>
<tr>
<td></td>
<td>1.38</td>
<td>1.21</td>
</tr>
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</table>

----- Transition Zone Information ----- 

WCA-3A is in Zone A

Supplemental discharge is MAX cfs
Distance to Top of Zone E -0.80 feet
Distance to Bottom of Regulatory Zone -0.30 feet

----- Statistical Parameters ----- 

<table>
<thead>
<tr>
<th>Rainfall Formula Amount</th>
<th>-306 cfs</th>
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<tbody>
<tr>
<td>Last Week's Rainfall Formula</td>
<td>-212 cfs</td>
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<tr>
<td>Pre-Project Mean Discharge</td>
<td>0 cfs</td>
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</table>

Rainfall Excess Terms

<table>
<thead>
<tr>
<th>RL1</th>
<th>RL2</th>
<th>RL3</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2.18</td>
<td>-0.55</td>
<td>-0.39</td>
</tr>
</tbody>
</table>

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
Historical Rainfall
SRS Discharge from Rainfall Plan
Rainfall Formula Amount

Actual vs. Historical Rainfall
Deliveries to Shark River Slough
Computed by Rainfall Plan
# WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow** September 30, 2014 to October 6, 2014 **MAX cfs**

| S-12 Discharge | **MAX cfs** |
| S-333 Discharge | **MAX cfs** |

<table>
<thead>
<tr>
<th><strong>-------- Data Summary --------</strong></th>
<th>September 19, 2014 to September 26, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>WCA-3A Stage (end of week)</td>
<td>10.55 ft. msl</td>
</tr>
<tr>
<td>Angel's</td>
<td>6.91 ft. msl</td>
</tr>
<tr>
<td>G3273</td>
<td>7.08 ft. msl</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.99</td>
<td>1.08</td>
</tr>
</tbody>
</table>

| S-140 | 0.97 |
| ENP | M |

| This Week's Avg | 0.99 |
| Pre-Project Avg | 2.07 |

<table>
<thead>
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<th>----- Transition Zone Information -----</th>
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<tbody>
<tr>
<td>WCA-3A is in Zone A</td>
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<th>Supplemental discharge is</th>
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<tr>
<td>Distance to Top of Zone E</td>
<td>-0.78 feet</td>
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<tr>
<td>Distance to Bottom of Regulatory Zone</td>
<td>-0.28 feet</td>
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<th>----- Statistical Parameters -----</th>
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<tr>
<td>Rainfall Formula Amount</td>
</tr>
<tr>
<td>Last Week's Rainfall Formula</td>
</tr>
<tr>
<td>Pre-Project Mean Discharge</td>
</tr>
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</table>

| Rainfall Excess Terms | RL1 | -1.71 | RL2 | -0.71 | RL3 | 0.07 |

**COMMENT:** S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing.

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow  September 23, 2014  to  September 29, 2014  MAX  cfs

S-12 Discharge  MAX  cfs
S-333 Discharge  MAX  cfs

------- Data Summary -------  September 12, 2014  to  September 19, 2014

WCA-3A Stage (end of week)  10.47  ft. msl
Angel's  6.78  ft. msl
G3273  7.03  ft. msl

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>1.40</td>
<td>1.30</td>
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<th>ENP</th>
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<tr>
<td>Pan Evaporation</td>
<td>1.39</td>
<td>M</td>
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<th>This Week's Avg</th>
<th>Pre-Project Avg</th>
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<tbody>
<tr>
<td>Rainfall</td>
<td>1.40</td>
<td>2.16</td>
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<tr>
<td>Pan Evaporation</td>
<td>1.35</td>
<td>1.27</td>
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</table>

----- Transition Zone Information -----  WCA-3A is in Zone A
Supplemental discharge is  MAX  cfs
Distance to Top of Zone E  -0.74  feet
Distance to Bottom of Regulatory Zone  -0.24  feet

----- Statistical Parameters -----  
Rainfall Formula Amount  -135  cfs
Last Week's Rainfall Formula  -224  cfs
Pre-Project Mean Discharge  0  cfs

Rainfall Excess Terms
RL1  0.90  RL2  -3.06  RL3  0.46

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow September 16, 2014 to September 22, 2014 MAX cfs
S-12 Discharge MAX cfs
S-333 Discharge MAX cfs

------- Data Summary ------- September 5, 2014 to September 12, 2014
WCA-3A Stage (end of week) 10.34 ft. msl
Angel's 6.49 ft. msl
G3273 6.86 ft. msl

Station Rainfall (in) Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation 3.75 1.57

This Week's Avg 3.75 1.35
Pre-Project Avg 2.00 1.31

----- Transition Zone Information ----- WCA-3A is in Zone A
Supplemental discharge is MAX cfs
Distance to Top of Zone E -0.66 feet
Distance to Bottom of Regulatory Zone -0.16 feet

----- Statistical Parameters ----- Rainfall Formula Amount -224 cfs
Last Week's Rainfall Formula -337 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 1.16 RL2 -1.06 RL3 -0.99

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow  September 9, 2014  to  September 15, 2014  2361  cfs
S-12 Discharge  1063  cfs
S-333 Discharge  1299  cfs

------- Data Summary -------
August 29, 2014  to  September 5, 2014
WCA-3A Stage (end of week)  10.11  ft. msl
Angel's  5.92  ft. msl
G3273  6.50  ft. msl

Station  Rainfall (in)  Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation  1.43  1.50

S-140  1.39
ENP  M

This Week's Avg  1.43  1.45
Pre-Project Avg  1.90  1.34

----- Transition Zone Information -----  
WCA-3A is in Zone  D  
Supplemental discharge is  2361  cfs
Distance to Top of Zone E  -0.47  feet
Distance to Bottom of Regulatory Zone  0.02  feet

----- Statistical Parameters -----  
Rainfall Formula Amount  -337  cfs
Last Week's Rainfall Formula  -288  cfs
Pre-Project Mean Discharge  0  cfs

Rainfall Excess Terms  
RL1  -1.45  RL2  -0.39  RL3  -0.34

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow  September 2, 2014 to September 8, 2014  MAX  cfs
S-12 Discharge  MAX  cfs
S-333 Discharge  MAX  cfs

------- Data Summary -------  August 22, 2014 to August 29, 2014
WCA-3A Stage (end of week) 10.10 ft. msl
Angel's 6.04 ft. msl
G3273 6.66 ft. msl

Station  Rainfall (in)  Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation 1.24 1.83

S-140 1.49
ENP M

This Week's Avg 1.24 1.66
Pre-Project Avg 1.89 1.36

----- Transition Zone Information -----  
WCA-3A is in Zone A
Supplemental discharge is  MAX  cfs
Distance to Top of Zone E -0.51 feet
Distance to Bottom of Regulatory Zone -0.01 feet

----- Statistical Parameters -----  
Rainfall Formula Amount -288 cfs
Last Week's Rainfall Formula -210 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 -1.87  RL2 0.07  RL3 -0.38

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
----- Data Summary -----

August 15, 2014 to August 22, 2014

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<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.84</td>
<td>1.38</td>
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<tr>
<td>S-140</td>
<td>1.65</td>
<td></td>
</tr>
<tr>
<td>ENP</td>
<td></td>
<td>M</td>
</tr>
</tbody>
</table>

This Week's Avg

Pre-Project Avg

----- Transition Zone Information ----- WCA-3A is in Zone A

Supplemental discharge is MAX cfs
Distance to Top of Zone E: -0.51 feet
Distance to Bottom of Regulatory Zone: -0.02 feet

----- Statistical Parameters ----- 

Rainfall Formula Amount: -210 cfs
Last Week's Rainfall Formula: -144 cfs
Pre-Project Mean Discharge: 0 cfs

Rainfall Excess Terms

RL1 -1.61
RL2 0.46
RL3 -0.57

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow August 19, 2014 to August 25, 2014 2179 cfs

S-12 Discharge 980 cfs
S-333 Discharge 1198 cfs

----- Data Summary -----

August 8, 2014 to August 15, 2014

WCA-3A Stage (end of week) 9.94 ft. msl
Angel's 6.77 ft. msl
G3273 6.98 ft. msl

Station Rainfall (in) Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation 1.39 1.76

S-140 1.80
ENP M

This Week's Avg 1.39 1.78
Pre-Project Avg 1.70 1.39

----- Transition Zone Information ----- 

WCA-3A is in Zone D
Supplemental discharge is 2179 cfs
Distance to Top of Zone E -0.44 feet
Distance to Bottom of Regulatory Zone 0.06 feet

----- Statistical Parameters ----- 

Rainfall Formula Amount -144 cfs
Last Week's Rainfall Formula -222 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 0.81 RL2 -0.99 RL3 -0.23

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow August 12, 2014 to August 18, 2014 1601 cfs

S-12 Discharge 721 cfs
S-333 Discharge 881 cfs

-------- Data Summary --------
August 1, 2014 to August 8, 2014

WCA-3A Stage (end of week) 9.78 ft. msl
Angel's 6.78 ft. msl
G3273 6.98 ft. msl

Station Rainfall (in) Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation 3.07 1.13

S-140 1.50
ENP M

This Week's Avg 3.07 1.32
Pre-Project Avg 1.72 1.42

----- Transition Zone Information ----- WCA-3A is in Zone D
Supplemental discharge is 1601 cfs
Distance to Top of Zone E -0.32 feet
Distance to Bottom of Regulatory Zone 0.17 feet

----- Statistical Parameters ----- Rainfall Formula Amount -222 cfs
Last Week's Rainfall Formula -339 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 1.21 RL2 -0.34 RL3 -1.57

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Shark River Slough
Actual vs. Historical Rainfall

Actual Rain
Historical Rain

Deliveries to Shark River Slough
Computed by Rainfall Plan

Minimum Delivery Schedule
Maximum Discharge
SRS Discharge from Rainfall Plan
Rainfall Formula Amount
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow  August 5, 2014  to  August 11, 2014  0 cfs

S-12 Discharge  0 cfs
S-333 Discharge  0 cfs

------- Data Summary -------  July 25, 2014  to  August 1, 2014
WCA-3A Stage (end of week)  9.39 ft. msl
Angel's  6.80 ft. msl
G3273  6.92 ft. msl

Station  Rainfall (in)  Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation  1.73  1.58

S-140  1.58

ENP  M

This Week's Avg  1.73  1.58
Pre-Project Avg  1.83  1.42

----- Transition Zone Information -----  
WCA-3A is in Zone  E
Supplemental discharge is  0 cfs
Distance to Top of Zone E  0.03 feet
Distance to Bottom of Regulatory Zone  0.52 feet

----- Statistical Parameters -----  
Rainfall Formula Amount  -339 cfs
Last Week's Rainfall Formula  -331 cfs
Pre-Project Mean Discharge  0 cfs

Rainfall Excess Terms  RL1 -0.75  RL2 -0.38  RL3 -2.24

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow    July 29, 2014 to August 4, 2014         0 cfs

S-12 Discharge  0 cfs
S-333 Discharge 0 cfs

------- Data Summary -------
July 18, 2014 to July 25, 2014

WCA-3A Stage (end of week)  9.30 ft. msl
Angel's                     6.46 ft. msl
G3273                       6.78 ft. msl

Station            Rainfall (in)  Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation  1.40     1.34
S-140               1.52
ENP                 M

This Week's Avg  1.40     1.43
Pre-Project Avg  1.92     1.42

----- Transition Zone Information -----  
WCA-3A is in Zone E
Supplemental discharge is  0 cfs
Distance to Top of Zone E  0.07 feet
Distance to Bottom of Regulatory Zone  0.56 feet

----- Statistical Parameters -----  
Rainfall Formula Amount  -331 cfs
Last Week's Rainfall Formula  -322 cfs
Pre-Project Mean Discharge  0 cfs
Rainfall Excess Terms
RL1   -0.76  RL2  -0.57  RL3  -3.40

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing.

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Historical Rainfall Formula Amount

Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan

Minimum Delivery Schedule  Maximum Discharge  SRS Discharge from Rainfall Plan  Rainfall Formula Amount
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow July 22, 2014 to July 28, 2014 0 cfs

S-12 Discharge 0 cfs
S-333 Discharge 0 cfs

-------- Data Summary --------
July 11, 2014 to July 18, 2014
WCA-3A Stage (end of week) 9.30 ft. msl
Angel's 6.31 ft. msl
G3273 6.64 ft. msl

Station Rainfall (in) Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation 1.54 1.17
S-140 1.25
ENP M

This Week's Avg 1.54 1.21
Pre-Project Avg 1.95 1.43

----- Transition Zone Information ----- WCA-3A is in Zone E
Supplemental discharge is 0 cfs
Distance to Top of Zone E 0.03 feet
Distance to Bottom of Regulatory Zone 0.51 feet

----- Statistical Parameters ----- Rainfall Formula Amount -322 cfs
Last Week's Rainfall Formula -341 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 -0.25  RL2 -0.23  RL3 -3.72

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow: July 15, 2014 to July 21, 2014 191 cfs
S-12 Discharge 86 cfs
S-333 Discharge 105 cfs

------- Data Summary -------
July 4, 2014 to July 11, 2014

WCA-3A Stage (end of week) 9.32 ft. msl
Angel's 6.74 ft. msl
G3273 6.69 ft. msl

Station Rainfall (in) Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation 1.82 1.34
S-140 1.31
ENP M

This Week's Avg 1.82 1.32
Pre-Project Avg 1.93 1.45

----- Transition Zone Information ----- WCA-3A is in Zone D
Supplemental discharge is 191 cfs
Distance to Top of Zone E -0.54 feet
Distance to Bottom of Regulatory Zone 0.45 feet

----- Statistical Parameters ----- Rainfall Formula Amount -341 cfs
Last Week's Rainfall Formula -408 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 0.42
RL2 -1.57
RL3 -3.87

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Historical Rain
SRS Discharge from Rainfall Plan
Maximum Discharge
Rainfall Formula Amount

Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow  July 8, 2014  to  July 14, 2014  83  cfs

S-12 Discharge  37  cfs
S-333 Discharge  46  cfs

------- Data Summary -------

June 27, 2014  to  July 4, 2014

<table>
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<th>Station</th>
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<th>Pan Evaporation (in)</th>
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<tr>
<td>Angel's</td>
<td>5.87 ft. msl</td>
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<tr>
<td>G3273</td>
<td>6.32 ft. msl</td>
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</table>

NEXRAD Rain for WCA-3A and S7 evaporation

This Week's Avg  2.46
Pre-Project Avg  2.05

----- Transition Zone Information -----

WCA-3A is in Zone  D

Supplemental discharge is  83  cfs
Distance to Top of Zone E  -0.45 feet
Distance to Bottom of Regulatory Zone  0.44 feet

----- Statistical Parameters -----

Rainfall Formula Amount  -408  cfs
Last Week's Rainfall Formula  -442  cfs
Pre-Project Mean Discharge  0  cfs

Rainfall Excess Terms

<table>
<thead>
<tr>
<th>RL1</th>
<th>RL2</th>
<th>RL3</th>
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</thead>
<tbody>
<tr>
<td>-0.13</td>
<td>-2.24</td>
<td>-3.12</td>
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COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow July 1, 2014 to July 7, 2014 322 cfs

S-12 Discharge 145 cfs
S-333 Discharge 177 cfs

------- Data Summary -------
June 20, 2014 to June 27, 2014

WCA-3A Stage (end of week) 9.00 ft. msl
Angel's 5.56 ft. msl
G3273 5.96 ft. msl

<table>
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<tr>
<th>Station</th>
<th>Rainfall (in)</th>
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<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
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<td>1.58</td>
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<tr>
<td>S-140</td>
<td>1.54</td>
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<tr>
<td>ENP</td>
<td>M</td>
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</tbody>
</table>

This Week's Avg 1.60 1.56
Pre-Project Avg 2.10 1.49

------ Transition Zone Information ------
WCA-3A is in Zone E1
Supplemental discharge is 322 cfs
Distance to Top of Zone E -0.13 feet
Distance to Bottom of Regulatory Zone 0.68 feet

------ Statistical Parameters ------
Rainfall Formula Amount -442 cfs
Last Week's Rainfall Formula -431 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 -0.98
RL2 -3.40
RL3 -2.06

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow June 24, 2014 to June 30, 2014 85 cfs

S-12 Discharge
S-333 Discharge

------- Data Summary -------

June 13, 2014 to June 20, 2014

WCA-3A Stage (end of week) 8.95 ft. msl
Agiel's 5.75 ft. msl
G3273 6.11 ft. msl

Station Rainfall (in) Pan Evaporation (in)

NEXRAD Rain for WCA-3A and S7 evaporation 1.46 1.33

S-140 1.45

ENP M

This Week's Avg 1.46 1.39
Pre-Project Avg 1.98 1.51

----- Transition Zone Information ----- WCA-3A is in Zone E1

Supplemental discharge is 85 cfs
Distance to Top of Zone E -0.03 feet
Distance to Bottom of Regulatory Zone 0.68 feet

----- Statistical Parameters ----- Rainfall Formula Amount -431 cfs
Last Week's Rainfall Formula -469 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms

RL1 -0.10 RL2 -3.72 RL3 -1.74

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow June 17, 2014 to June 23, 2014 0 cfs

S-12 Discharge 0 cfs
S-333 Discharge 0 cfs

------- Data Summary ------- June 6, 2014 to June 13, 2014
WCA-3A Stage (end of week) 8.95 ft. msl
Angel’s 5.52 ft. msl
G3273 6.11 ft. msl

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<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>2.15</td>
<td>1.52</td>
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<tr>
<td>S-140</td>
<td>1.57</td>
<td></td>
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<tr>
<td>ENP</td>
<td>M</td>
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</tbody>
</table>

This Week's Avg 2.15 1.54
Pre-Project Avg 1.83 1.55

----- Transition Zone Information ----- WCA-3A is in Zone E
Supplemental discharge is 0 cfs
Distance to Top of Zone E 0.01 feet
Distance to Bottom of Regulatory Zone 0.63 feet

----- Statistical Parameters ----- Rainfall Excess Terms
Rainfall Formula Amount -469 cfs
Last Week's Rainfall Formula -484 cfs
Pre-Project Mean Discharge 0 cfs

RL1 -0.58 RL2 -3.87 RL3 -1.43

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow  June 10, 2014 to June 16, 2014  0 cfs

S-12 Discharge  0 cfs
S-333 Discharge  0 cfs

------- Data Summary -------
May 30, 2014 to June 6, 2014

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.47</td>
<td>1.28</td>
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<tr>
<td>S-140</td>
<td></td>
<td>1.17</td>
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<tr>
<td>ENP</td>
<td></td>
<td>M</td>
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</tbody>
</table>

This Week's Avg  0.47  1.22
Pre-Project Avg  1.67  1.59

----- Transition Zone Information -----  
WCA-3A is in Zone E
Supplemental discharge is  0 cfs
Distance to Top of Zone E  0.38 feet
Distance to Bottom of Regulatory Zone  0.91 feet

----- Statistical Parameters -----  
Rainfall Formula Amount  -484 cfs
Last Week's Rainfall Formula  -411 cfs
Pre-Project Mean Discharge  0 cfs
Rainfall Excess Terms
RL1  -2.14  
RL2  -3.12  
RL3  -1.28

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow June 3, 2014 to June 9, 2014 0 cfs

S-12 Discharge 0 cfs
S-333 Discharge 0 cfs

------- Data Summary -------
May 23, 2014 to May 30, 2014

WCA-3A Stage (end of week) 8.62 ft msl
Angel's 4.01 ft msl
G3273 4.45 ft msl

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A</td>
<td>0.39</td>
<td>1.72</td>
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<tr>
<td>and S7 evaporation</td>
<td></td>
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<tr>
<td>S-140</td>
<td>1.64</td>
<td></td>
</tr>
<tr>
<td>ENP</td>
<td>M</td>
<td></td>
</tr>
</tbody>
</table>

This Week's Avg 0.39 1.68
Pre-Project Avg 1.57 1.61

----- Transition Zone Information -----  
WCA-3A is in Zone E
Supplemental discharge is 0 cfs
Distance to Top of Zone E 0.43 feet
Distance to Bottom of Regulatory Zone 0.88 feet

----- Statistical Parameters -----  
Rainfall Formula Amount -411 cfs
Last Week's Rainfall Formula -291 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 -2.81 RL2 -2.06 RL3 -0.80

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow  May 27, 2014  to  June 2, 2014  0 cfs

S-12 Discharge  0 cfs
S-333 Discharge  0 cfs

-------- Data Summary --------  May 16, 2014  to  May 23, 2014

WCA-3A Stage (end of week)  8.70 ft. msl
Angel's  4.01 ft. msl
G3273  4.46 ft. msl

Station  Rainfall (in)  Pan Evaporation (in)
NEXRAD Rain for WCA-3A 0.00  1.76
and S7 evaporation
S-140  1.84
ENP  M

This Week's Avg 0.00  1.80
Pre-Project Avg 1.43  1.61

-------- Transition Zone Information --------

WCA-3A is in Zone E
Supplemental discharge is 0 cfs
Distance to Top of Zone E 0.39 feet
Distance to Bottom of Regulatory Zone 0.84 feet

-------- Statistical Parameters --------

Rainfall Formula Amount  -291 cfs
Last Week's Rainfall Formula  -229 cfs
Pre-Project Mean Discharge  0 cfs

Rainfall Excess Terms
RL1  -1.58  RL2  -1.74  RL3  -1.35

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Target Flow: May 20, 2014 to May 26, 2014

S-12 Discharge: 0 cfs
S-333 Discharge: 0 cfs

------- Data Summary -------

May 9, 2014 to May 16, 2014

WCA-3A Stage (end of week)
Angel’s: 8.87 ft. msl
G3273: 4.03 ft. msl

NEXRAD Rain for WCA-3A and S7 evaporation
Rainfall (in): 1.31
Pan Evaporation (in): 1.77

Station: S-140
Rainfall (in): 1.72
Pan Evaporation (in): M

This Week's Avg: 1.31
Pre-Project Avg: 1.21

----- Transition Zone Information ----- WCA-3A is in Zone E
Supplemental discharge is: 0 cfs
Distance to Top of Zone E: 0.27 feet
Distance to Bottom of Regulatory Zone: 0.72 feet

----- Statistical Parameters ----- Rainfall Formula Amount: -229 cfs
Last Week's Rainfall Formula: -192 cfs
Pre-Project Mean Discharge: 0 cfs

Rainfall Excess Terms
RL1: -1.05
RL2: -1.43
RL3: -1.26

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing.

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow**  
May 13, 2014 to May 19, 2014  
0 cfs

<table>
<thead>
<tr>
<th>S-12 Discharge</th>
<th>0 cfs</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-333 Discharge</td>
<td>0 cfs</td>
</tr>
</tbody>
</table>

****** Data Summary ******  
May 2, 2014 to May 9, 2014

<table>
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<tr>
<th>WCA-3A Stage (end of week)</th>
<th>8.82 ft. msl</th>
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<tbody>
<tr>
<td>Angel's</td>
<td>3.93 ft. msl</td>
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<tr>
<td>G3273</td>
<td>4.42 ft. msl</td>
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<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.13</td>
<td>1.68</td>
</tr>
<tr>
<td>S-140</td>
<td>1.80</td>
<td></td>
</tr>
<tr>
<td>ENP</td>
<td>M</td>
<td></td>
</tr>
</tbody>
</table>

This Week's Avg  
0.13  
1.74

Pre-Project Avg  
1.08  
1.61

****** Transition Zone Information ******

WCA-3A is in Zone E

Supplemental discharge is  
0 cfs

Distance to Top of Zone E  
0.36 feet

Distance to Bottom of Regulatory Zone  
0.82 feet

****** Statistical Parameters ******

Rainfall Formula Amount  
-192 cfs

Last Week's Rainfall Formula  
-123 cfs

Pre-Project Mean Discharge  
0 cfs

Rainfall Excess Terms  
RL1 -1.54  
RL2 -1.28  
RL3 -0.77

**COMMENT:** S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE:* Actual discharges may vary from target discharges because of changing hydrologic conditions.
Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow May 6, 2014 to May 12, 2014 0 cfs

S-12 Discharge 0 cfs
S-333 Discharge 0 cfs

------ Data Summary ------
April 25, 2014 to May 2, 2014
WCA-3A Stage (end of week) 8.97 ft. msl
Angel's 4.20 ft. msl
G3273 4.81 ft. msl

NEXRAD Rain for WCA-3A and S7 evaporation
Station Rainfall (in) Pan Evaporation (in)
S-140 0.62 1.85
ENP

This Week's Avg 0.62 1.84
Pre-Project Avg 0.92 1.60

------ Transition Zone Information ------
WCA-3A is in Zone E
Supplemental discharge is 0 cfs
Distance to Top of Zone E 0.26 feet
Distance to Bottom of Regulatory Zone 0.71 feet

------ Statistical Parameters ------
Rainfall Formula Amount -123 cfs
Last Week's Rainfall Formula -78 cfs
Pre-Project Mean Discharge 0 cfs
Rainfall Excess Terms

RL1 -1.00  RL2 -0.80  RL3 -0.91

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow  April 29, 2014  to  May 5, 2014  0  cfs

S-12 Discharge  0  cfs
S-333 Discharge  0  cfs

------ Data Summary ------

April 18, 2014  to  April 25, 2014

WCA-3A Stage (end of week)  9.09  ft. msl
Angel’s  4.65  ft. msl
G3273  5.29  ft. msl

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<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.29</td>
<td>1.58</td>
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<tr>
<td>S-140</td>
<td></td>
<td>1.60</td>
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<td>ENP</td>
<td></td>
<td>M</td>
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</table>

This Week’s Avg  0.29  1.59
Pre-Project Avg  0.80  1.58

----- Transition Zone Information -----  

WCA-3A is in Zone  E
Supplemental discharge is  0  cfs
Distance to Top of Zone E  0.18  feet
Distance to Bottom of Regulatory Zone  0.64  feet

----- Statistical Parameters -----  

Rainfall Formula Amount  -78  cfs
Last Week’s Rainfall Formula  -75  cfs
Pre-Project Mean Discharge  0  cfs

Rainfall Excess Terms

<table>
<thead>
<tr>
<th>RL1</th>
<th>RL2</th>
<th>RL3</th>
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</thead>
<tbody>
<tr>
<td>-0.20</td>
<td>-1.35</td>
<td>-1.12</td>
</tr>
</tbody>
</table>

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
## WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow**  
April 22, 2014 to April 28, 2014  
0 cfs

- S-12 Discharge  
- S-333 Discharge

### Data Summary

**April 11, 2014 to April 18, 2014**

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<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tbody>
<tr>
<td>WCA-3A Stage (end of week)</td>
<td>9.19 ft. msl</td>
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<tr>
<td>Angel's</td>
<td>4.50 ft. msl</td>
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<tr>
<td>G3273</td>
<td>5.37 ft. msl</td>
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<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.97</td>
<td>1.45</td>
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<tr>
<td>S-140</td>
<td>1.53</td>
<td></td>
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<td>ENP</td>
<td>M</td>
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<table>
<thead>
<tr>
<th></th>
<th>This Week's Avg</th>
<th>Pre-Project Avg</th>
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<tbody>
<tr>
<td>Rainfall (in)</td>
<td>0.97</td>
<td>0.69</td>
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<tr>
<td>Pan Evaporation (in)</td>
<td>1.49</td>
<td>1.54</td>
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### Transition Zone Information

- **WCA-3A is in Zone E**
- Supplemental discharge is 0 cfs
- Distance to Top of Zone E: 0.13 feet
- Distance to Bottom of Regulatory Zone: 0.59 feet

### Statistical Parameters

- Rainfall Formula Amount: -75 cfs
- Last Week’s Rainfall Formula: -58 cfs
- Pre-Project Mean Discharge: 0 cfs

- **Rainfall Excess Terms**
  - RL1: -0.42
  - RL2: -1.26
  - RL3: -0.46

**COMMENT:** S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing.

**NOTE:** Actual discharges may vary from target discharges because of changing hydrologic conditions.
Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow April 15, 2014 to April 21, 2014 0 cfs
S-12 Discharge 0 cfs
S-333 Discharge 0 cfs

------- Data Summary -------
April 4, 2014 to April 11, 2014

WCA-3A Stage (end of week) 9.18 ft. msl
Angel's 4.76 ft. msl
G3273 5.55 ft. msl

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.05</td>
<td>1.68</td>
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<tr>
<td>S-140</td>
<td>1.81</td>
<td></td>
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<tr>
<td>ENP</td>
<td>M</td>
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</table>

This Week's Avg 0.05 1.75
Pre-Project Avg 0.60 1.51

----- Transition Zone Information ----- WCA-3A is in Zone E
Supplemental discharge is 0 cfs
Distance to Top of Zone E 0.18 feet
Distance to Bottom of Regulatory Zone 0.64 feet

----- Statistical Parameters ----- Rainfall Formula Amount -58 cfs
Last Week's Rainfall Formula -2 cfs
Pre-Project Mean Discharge 0 cfs
Rainfall Excess Terms
RL1 -1.08 RL2 -0.77 RL3 -0.38

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow April 8, 2014 to April 14, 2014 0 cfs
S-12 Discharge 0 cfs
S-333 Discharge 0 cfs

------- Data Summary ------- March 28, 2014 to April 4, 2014
WCA-3A Stage (end of week) 9.29 ft. msl
Angel's 5.10 ft. msl
G3273 5.88 ft. msl

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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</thead>
<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.21</td>
<td>1.38</td>
</tr>
<tr>
<td>This Week's Avg</td>
<td>0.21</td>
<td>1.42</td>
</tr>
<tr>
<td>Pre-Project Avg</td>
<td>0.59</td>
<td>1.47</td>
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----- Transition Zone Information -----
WCA-3A is in Zone E
Supplemental discharge is 0 cfs
Distance to Top of Zone E 0.12 feet
Distance to Bottom of Regulatory Zone 0.58 feet

----- Statistical Parameters ------
Rainfall Formula Amount -2 cfs
Last Week's Rainfall Formula 7 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 -0.38 RL2 -0.91 RL3 1.16

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow April 1, 2014 to April 7, 2014

S-12 Discharge 3 cfs
S-333 Discharge 4 cfs

------- Data Summary ------- March 21, 2014 to March 28, 2014
WCA-3A Stage (end of week) 9.38 ft. msl
Angel's 5.37 ft. msl
G3273 5.95 ft. msl

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tbody>
<tr>
<td>NEXRAD Rain for WCA-3A</td>
<td>0.43</td>
<td>1.36</td>
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<tr>
<td>and S7 evaporation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-140</td>
<td></td>
<td>1.29</td>
</tr>
<tr>
<td>ENP</td>
<td></td>
<td>M</td>
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</tbody>
</table>

| This Week's Avg | 0.43 | 1.32 |
| Pre-Project Avg | 0.54 | 1.41 |

----- Transition Zone Information ----- WCA-3A is in Zone E
Supplemental discharge is 0 cfs
Distance to Top of Zone E 0.07 feet
Distance to Bottom of Regulatory Zone 0.54 feet

----- Statistical Parameters ----- Rainfall Formula Amount 7 cfs
Last Week's Rainfall Formula 11 cfs
Pre-Project Mean Discharge 0 cfs
Rainfall Excess Terms

<table>
<thead>
<tr>
<th>RL1</th>
<th>RL2</th>
<th>RL3</th>
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<tbody>
<tr>
<td>-0.27</td>
<td>-1.12</td>
<td>1.30</td>
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</table>

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow March 25, 2014 to March 31, 2014 11 cfs

S-12 Discharge 5 cfs
S-333 Discharge 6 cfs

------- Data Summary -------
March 14, 2014 to March 21, 2014

WCA-3A Stage (end of week) 9.48 ft. msl
Angel’s 5.32 ft. msl
G3273 5.94 ft. msl

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<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tr>
<td>NEXRAD Rain for WCA-3A</td>
<td>0.28</td>
<td>1.50</td>
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<tr>
<td>and S7 evaporation</td>
<td></td>
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<tr>
<td>S-140</td>
<td>1.43</td>
<td></td>
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<tr>
<td>ENP</td>
<td>M</td>
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This Week’s Avg 0.28 1.47
Pre-Project Avg 0.43 1.36

----- Transition Zone Information ----- 
WCA-3A is in Zone E
Supplemental discharge is 0 cfs
Distance to Top of Zone E 0.02 feet
Distance to Bottom of Regulatory Zone 0.49 feet

----- Statistical Parameters ----- 
Rainfall Formula Amount 11 cfs
Last Week's Rainfall Formula 51 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 -0.88
RL2 -0.46
RL3 1.11

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
### WCA-3A RAINFALL-BASED MANAGEMENT PLAN

**Target Flow** March 18, 2014 to March 24, 2014 99 cfs

S-12 Discharge 45 cfs
S-333 Discharge 55 cfs

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<tr>
<th>Data Summary</th>
<th>March 7, 2014 to March 14, 2014</th>
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<td>WCA-3A Stage (end of week)</td>
<td>9.56 ft. msl</td>
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<tr>
<td>Angel's</td>
<td>5.35 ft. msl</td>
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<tr>
<td>G3273</td>
<td>5.97 ft. msl</td>
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<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.00</td>
<td>1.42</td>
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<td>S-140</td>
<td></td>
<td>1.71</td>
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<tr>
<td>ENP</td>
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<td>M</td>
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</tbody>
</table>

| This Week's Avg | 0.00 | 1.56 |
| Pre-Project Avg | 0.43 | 1.29 |

----- Transition Zone Information -----  
WCA-3A is in Zone **E1**

Supplemental discharge is 48 cfs
Distance to Top of Zone E -0.02 feet
Distance to Bottom of Regulatory Zone 0.45 feet

----- Statistical Parameters -----  
Rainfall Formula Amount 51 cfs
Last Week's Rainfall Formula 75 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms

<table>
<thead>
<tr>
<th>RL1</th>
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<th>RL3</th>
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<tbody>
<tr>
<td>-0.50</td>
<td>-0.38</td>
<td>0.96</td>
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</table>

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow  March 11, 2014  to  March 17, 2014  287  cfs

S-12 Discharge                  129  cfs
S-333 Discharge                 158  cfs

------- Data Summary -------
February 28, 2014  to  March 7, 2014

WCA-3A Stage (end of week)     9.67  ft. msl
Angel's                        5.60  ft. msl
G3273                          6.15  ft. msl

Station  Rainfall (in)  Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation  0.63  1.36

S-140  1.46
ENP    M

This Week's Avg  0.63  1.41
Pre-Project Avg  0.33  1.22

----- Transition Zone Information -----  
WCA-3A is in Zone  E1
Supplemental discharge is  211  cfs
Distance to Top of Zone E  -0.08  feet
Distance to Bottom of Regulatory Zone  0.39  feet

----- Statistical Parameters -----  
Rainfall Formula Amount  75  cfs
Last Week's Rainfall Formula  73  cfs
Pre-Project Mean Discharge  0  cfs

Rainfall Excess Terms
RL1  -0.03  RL2  1.16  RL3  -0.62

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow March 4, 2014 to March 10, 2014 273 cfs
S-12 Discharge 123 cfs
S-333 Discharge 150 cfs

------- Data Summary ------- February 21, 2014 to February 28, 2014
WCA-3A Stage (end of week) 9.71 ft. msl
Angel’s 5.54 ft. msl
G3273 6.14 ft. msl

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.31</td>
<td>1.29</td>
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<td>S-140</td>
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<td>1.24</td>
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<td>ENP</td>
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<td>M</td>
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</table>

This Week's Avg 0.31 1.26
Pre-Project Avg 0.40 1.15

----- Transition Zone Information ----- 
WCA-3A is in Zone E1
Supplemental discharge is 200 cfs
Distance to Top of Zone E -0.08 feet
Distance to Bottom of Regulatory Zone 0.40 feet

----- Statistical Parameters ----- 
Rainfall Formula Amount 73 cfs
Last Week’s Rainfall Formula 103 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 -0.63                    RL2 1.30                    RL3 -0.50

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
**WCA-3A RAINFALL-BASED MANAGEMENT PLAN**

Target Flow  **February 25, 2014**  to  **March 3, 2014**  **316 cfs**

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<tbody>
<tr>
<td>S-12</td>
<td>Discharge</td>
<td>142 cfs</td>
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<tr>
<td>S-333</td>
<td>Discharge</td>
<td>174 cfs</td>
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**----- Data Summary ------**  **February 14, 2014**  to  **February 21, 2014**

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<tbody>
<tr>
<td>WCA-3A Stage (end of week)</td>
<td>9.76 ft. msl</td>
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<tr>
<td>Angel's</td>
<td>5.61 ft. msl</td>
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<tr>
<td>G3273</td>
<td>6.28 ft. msl</td>
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<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tr>
<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.00</td>
<td>1.12</td>
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<tr>
<td>S-140</td>
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<td>1.21</td>
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<tr>
<td>ENP</td>
<td></td>
<td>M</td>
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</tbody>
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This Week's Avg 0.00 1.17
Pre-Project Avg 0.38 1.08

**----- Transition Zone Information -----**

**WCA-3A is in Zone E1**

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<table>
<thead>
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<tbody>
<tr>
<td>Supplemental discharge is</td>
<td>213 cfs</td>
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<tr>
<td>Distance to Top of Zone E</td>
<td>-0.09 feet</td>
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**----- Statistical Parameters -----**

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<td>Pre-Project Mean Discharge</td>
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<th>Rainfall Excess Terms</th>
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<td>RL1</td>
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<td>RL2</td>
<td>1.11</td>
</tr>
<tr>
<td>RL3</td>
<td>-0.62</td>
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**COMMENT:** S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing.

**NOTE:** Actual discharges may vary from target discharges because of changing hydrologic conditions.
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow  February 18, 2014 to February 24, 2014  378 cfs
S-12 Discharge  170 cfs
S-333 Discharge  208 cfs

------- Data Summary -------
February 7, 2014 to February 14, 2014
WCA-3A Stage (end of week)  9.82 ft. msl
Angel's  6.15 ft. msl
G3273  6.49 ft. msl

<table>
<thead>
<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<td>1.04</td>
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<td>M</td>
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This Week's Avg  0.44  1.10
Pre-Project Avg  0.35  1.01

----- Transition Zone Information ----- 
WCA-3A is in Zone E1
Supplemental discharge is  252 cfs
Distance to Top of Zone E -0.10 feet
Distance to Bottom of Regulatory Zone  0.38 feet

----- Statistical Parameters ----- 
Rainfall Formula Amount  126 cfs
Last Week's Rainfall Formula  110 cfs
Pre-Project Mean Discharge  0 cfs

Rainfall Excess Terms
RL1  0.25  RL2  0.96  RL3  -0.95

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Target Flow: February 11, 2014 to February 17, 2014

350 cfs

S-12 Discharge: 157 cfs
S-333 Discharge: 192 cfs

------- Data Summary -------
January 31, 2014 to February 7, 2014

WCA-3A Stage (end of week): 9.86 ft. msl
Angel's: 5.75 ft. msl
G3273: 6.41 ft. msl

Station | Rainfall (in) | Pan Evaporation (in)
--------|--------------|---------------------
NEXRAD Rain for WCA-3A and S7 evaporation | 0.54 | 0.90
S-140 | | 0.89
ENP | | M

This Week's Avg: 0.54 | 0.90
Pre-Project Avg: 0.35 | 0.94

----- Transition Zone Information ----- 
WCA-3A is in Zone E1
Supplemental discharge is: 240 cfs
Distance to Top of Zone E: -0.10 feet
Distance to Bottom of Regulatory Zone: 0.39 feet

----- Statistical Parameters ----- 
Rainfall Formula Amount: 110 cfs
Last Week's Rainfall Formula: -2 cfs
Pre-Project Mean Discharge: 0 cfs

Rainfall Excess Terms
RL1: 1.58
RL2: -0.62
RL3: -0.98

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
Shark River Slough
Actual vs. Historical Rainfall

Data Week Ending
09-Aug-2013 16-Aug-2013 23-Aug-2013 30-Aug-2013 06-Sep-2013 13-Sep-2013
24-Jan-2014 31-Jan-2014 07-Feb-2014

Average Rainfall (inches)
0 1 2 3 4 5

Shark River Slough
Actual vs. Historical Rainfall

Actual Rain
Historical Rain

Deliveries to Shark River Slough
Computed by Rainfall Plan

Operational Week Starting
13-Aug-2013 20-Aug-2013 27-Aug-2013 03-Sep-2013 10-Sep-2013 17-Sep-2013 24-Sep-2013

Flow (CFS)
-500 -250 0 250 500 750 1000 1250 1500 1750 2000 2250 2500 2750 3000
4000

Deliveries to Shark River Slough
Computed by Rainfall Plan

Minimum Delivery Schedule
Maximum Discharge
SRS Discharge from Rainfall Plan
Rainfall Formula Amount
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow February 4, 2014 to February 10, 2014 128 cfs
S-12 Discharge 58 cfs
S-333 Discharge 71 cfs

------- Data Summary ------- January 24, 2014 to January 31, 2014
WCA-3A Stage (end of week) 9.86 ft. msl
Angel's 6.20 ft. msl
G3273 6.58 ft. msl

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<th>Station</th>
<th>Rainfall (in)</th>
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<td>0.78</td>
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<td>S-140</td>
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<td>0.80</td>
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<td>M</td>
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This Week's Avg 1.64 0.79
Pre-Project Avg 0.35 0.88

----- Transition Zone Information ----- WCA-3A is in Zone E1
Supplemental discharge is 128 cfs
Distance to Top of Zone E -0.05 feet
Distance to Bottom of Regulatory Zone 0.43 feet

----- Statistical Parameters ----- Rainfall Formula Amount -2 cfs
Last Week's Rainfall Formula -85 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 1.05
RL2 -0.50
RL3 0.11

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.*
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow  January 28, 2014  to  February 3, 2014  0 cfs

S-12  Discharge  0 cfs
S-333 Discharge  0 cfs

------- Data Summary -------
January 17, 2014  to  January 24, 2014
WCA-3A Stage (end of week)  9.82 ft. msl
Angel's  5.77 ft. msl
G3273  6.49 ft. msl

Station  Rainfall (in)  Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation  0.03  0.81
S-140  0.86
ENP  M

This Week's Avg  0.03  0.84
Pre-Project Avg  0.33  0.83

----- Transition Zone Information ----- 
WCA-3A is in Zone E
Supplemental discharge is  0 cfs
Distance to Top of Zone E  0.03 feet
Distance to Bottom of Regulatory Zone  0.52 feet

----- Statistical Parameters ----- 
Rainfall Formula Amount  -85 cfs
Last Week's Rainfall Formula  -85 cfs
Pre-Project Mean Discharge  0 cfs

Rainfall Excess Terms
RL1  -0.47  RL2  -0.62  RL3  1.84

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Shark River Slough
Actual vs. Historical Rainfall

Average Rainfall (inches)

Data Week Ending

26-Jul-2013
02-Aug-2013
09-Aug-2013
16-Aug-2013
23-Aug-2013
30-Aug-2013
06-Sep-2013
13-Sep-2013
20-Sep-2013
27-Sep-2013
04-Oct-2013
11-Oct-2013
18-Oct-2013
25-Oct-2013
01-Nov-2013
08-Nov-2013
15-Nov-2013
22-Nov-2013
29-Nov-2013
06-Dec-2013
13-Dec-2013
20-Dec-2013
27-Dec-2013
03-Jan-2014
10-Jan-2014
17-Jan-2014
24-Jan-2014

Deliveries to Shark River Slough
Computed by Rainfall Plan

Flow (CFS)

Operational Week Starting

30-Jul-2013
06-Aug-2013
13-Aug-2013
20-Aug-2013
27-Aug-2013
03-Sep-2013
10-Sep-2013
17-Sep-2013
24-Sep-2013
01-Oct-2013
08-Oct-2013
15-Oct-2013
22-Oct-2013
29-Oct-2013
05-Nov-2013
12-Nov-2013
19-Nov-2013
26-Nov-2013
03-Dec-2013
10-Dec-2013
17-Dec-2013
24-Dec-2013
01-Jan-2014
08-Jan-2014
15-Jan-2014
22-Jan-2014
29-Jan-2014

WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow January 21, 2014 to January 27, 2014 5 cfs

S-12 Discharge 2 cfs
S-333 Discharge 3 cfs

------- Data Summary ------- January 10, 2014 to January 17, 2014

WCA-3A Stage (end of week) 9.90 ft. msl
Angel's 5.98 ft. msl
G3273 6.67 ft. msl

Station Rainfall (in) Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation 0.12 0.72

S-140 0.73

ENP M

This Week's Avg 0.12 0.73
Pre-Project Avg 0.35 0.81

----- Transition Zone Information ----- WCA-3A is in Zone E1
Supplemental discharge is 5 cfs
Distance to Top of Zone E 0.00 feet
Distance to Bottom of Regulatory Zone 0.49 feet

----- Statistical Parameters ----- Rainfall Formula Amount -85 cfs
Last Week's Rainfall Formula -106 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms RL1 -0.09 RL2 -0.95 RL3 1.77

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow January 14, 2014 to January 20, 2014 43 cfs

S-12 Discharge 20 cfs
S-333 Discharge 24 cfs

------- Data Summary -------
January 3, 2014 to January 10, 2014

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<tr>
<th>Station</th>
<th>Rainfall (in)</th>
<th>Pan Evaporation (in)</th>
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<tbody>
<tr>
<td>WCA-3A Stage</td>
<td>9.96 ft. msl</td>
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<td>Angel's</td>
<td>6.18 ft. msl</td>
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<td>G3273</td>
<td>6.80 ft. msl</td>
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<td>NEXRAD Rain for WCA-3A and S7 evaporation</td>
<td>0.38</td>
<td>0.87</td>
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<td>S-140</td>
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<tr>
<td>ENP</td>
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<td>M</td>
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</tbody>
</table>

This Week's Avg 0.38 0.83
Pre-Project Avg 0.25 0.77

----- Transition Zone Information ----- 

WCA-3A is in Zone E1
Supplemental discharge is 43 cfs
Distance to Top of Zone E -0.02 feet
Distance to Bottom of Regulatory Zone 0.47 feet

----- Statistical Parameters ----- 

Rainfall Formula Amount -106 cfs
Last Week's Rainfall Formula -123 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 -0.15  
RL2 -0.98  
RL3 1.43

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
WCA-3A RAINFALL-BASED MANAGEMENT PLAN

Target Flow January 7, 2014 to January 13, 2014 0 cfs

S-12 Discharge 0 cfs
S-333 Discharge 0 cfs

------- Data Summary -------

December 27, 2013 to January 3, 2014

WCA-3A Stage (end of week) 9.98 ft. msl
Angel's 6.48 ft. msl
G3273 6.92 ft. msl

Station Rainfall (in) Pan Evaporation (in)
NEXRAD Rain for WCA-3A and S7 evaporation 0.03 0.69

S-140 0.76

ENP M

This Week's Avg 0.03 0.72
Pre-Project Avg 0.27 0.75

----- Transition Zone Information -----

WCA-3A is in Zone E

Supplemental discharge is 0 cfs
Distance to Top of Zone E 0.01 feet
Distance to Bottom of Regulatory Zone 0.50 feet

----- Statistical Parameters ----- 

Rainfall Formula Amount -123 cfs
Last Week's Rainfall Formula 168 cfs
Pre-Project Mean Discharge 0 cfs

Rainfall Excess Terms
RL1 -0.41 RL2 0.11 RL3 -0.55

COMMENT: S7 estimated evap data and S140 estimated evap data were used. ENP evap data were missing

*NOTE: Actual discharges may vary from target discharges because of changing hydrologic conditions.
Shark River Slough
Actual vs. Historical Rainfall

Deliveries to Shark River Slough
Computed by Rainfall Plan
Weekly Target Flows for Shark River Slough
Rainfall-Based Management Plan

Identification and Correction of Error from January through November 2014

The purpose of this short report is to document an error found in the target flow calculations for Shark River Slough. This report includes a description of the error, the correction implemented, and a table and a figure to present the differences between the originally computed target flow, the corrected target flow, and the actual structure flows.

The Shark River Slough weekly report is a WCA-3A rainfall-based management plan that provides target flows for “next-week” operations of structures S-12 and S-333. The SRS report is produced each week by running a spreadsheet model. The spreadsheet model uses data (stage, rainfall, and evapotranspiration) representing conditions each week, ending on Friday. Target flows are an output of the spreadsheet model representing what releases from S-12 and S-333 should total for the following week. These target flows are a sum of regulatory and environmental based flow components. The regulatory component is calculated from the stage level of WCA3A each Friday and its position and zone on its operating schedule. The environmental component is calculated for the week ending on Friday from NEXRAD rainfall for WCA 3A, observed water levels at Angel and G-3273, and estimated ET from the S-7 and S-140 gauges.

During the calculation for the week ending November 21, 2014, an error was found in the spreadsheet. For all 2014 weekly calculations prior to November 21, 2014, the environmental component calculation was missing a link reference to a table in the spreadsheet model. This link reference was typically established at the beginning each calendar year, however, it was not established at the beginning of 2014. The resulting weekly target flows omitted weekly mean historical releases and therefore did not represent properly the sum of both regulatory and environmental based flow components as intended, but rather a sum of regulatory based flow component and an incomplete calculation of the environmental based flow component.

As a solution to address this yearly recurring issue (that would occur without a manual reset at the beginning of each new year), a VLOOKUP function was introduced in the spreadsheet model which resets the weekly means table values back to week 1 at the start of each year. The VLOOKUP was added prior to the report for the week ending November 21st. Target flow calculations on and subsequent to November 21 properly represent the sum of both the regulatory and environmental based flow components.

In order to assess the magnitude of the error, a set of tables and figures were prepared to present the differences between the originally calculated target flows and the corrected target flows, as well as to present the actual flows. Table 1 and Figure 1 below show a comparison of the target flows prior to (original) and after the addition of the VLOOKUP function (corrected), the difference between the original and corrected target flows and the actual structure flows (actual flow obtained from SFWMD’s DBHydro for S12 + S333 – S334. The dbkeys are 15807, 15042, and FB752; respectively. Missing data for
S333 and S334 was filled using dbkeys AJ018 and DJ186, respectively. Missing data for S12 was filled using interpolation. The data were extracted from Dbhydro on 12/12/2014.

Going forward the USACE will also independently perform the Shark River Slough rainfall plan calculations as an additional Quality Assurance and Quality Control step. The rainfall plan calculations by the USACE will be based on the same spreadsheet used by the SFWMD for the Shark River Slough rainfall plan calculations. Any discrepancy noticed between the SFWMD and USACE calculations, will be resolved over a conference call between the two agencies.

The Attachment provides additional details on the nature of the error and details of the correction that was added to the spreadsheet model used to calculate the SRS Rainfall Plan target flows. Table 1 and Figure 1 summarize weekly values for the original and corrected target, and the actual deliveries.

**Table 1. Comparison of Original Target Flow, Corrected Target Flow, and Actual Flow**

<table>
<thead>
<tr>
<th>Target Date</th>
<th>Original Target</th>
<th>Corrected Target</th>
<th>Difference in Target</th>
<th>Actual Flow</th>
<th>Actual Flow minus Corrected Target</th>
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1 The Target Date is the ending date for the hydrologic data assembled for the model. The SRS weekly target report is issued on Monday. Operations for the new SRS flows are initiated on Tuesday.

2 The Actual Flow is calculated as S12s + S333 - S334. It is the average flow for the week that starts on Tuesday following the target date.
Figure 1. Comparison of Original Target Flow, Corrected Target Flow, and Actual Flow
Conclusions

Detailed information on the identification and resolution of the error, and more details on the calculation of the target are found in the Attachment.

1. The error was due to a weakness in the spreadsheet model that, at the start of each year, required manual set up of the cell references to the table of historical weekly mean flows. The references to the table are now automated via the VLOOKUP function and the manual set up is no longer required.

2. The corrected target values exceeded the original target values for the periods as follows:
   a. Four weeks from 1/3/2014 to 1/24/2014. The differences ranged between 68 cfs and 123 cfs. WCA 3A was in Zone E1 for 1/10 and 1/17 and the regulatory component was only 43 cfs and 5 cfs, respectively.
   b. Eight weeks from 1/31/2014 to 3/21/2014. The differences ranged between 25 cfs and 128 cfs. However, WCA 3A was in Zone E1 that calls for up to maximum releases per ERTP, and the actual deliveries exceeded the corrected target values by 373 cfs or more.
   c. Two weeks on 3/28/2014 and 4/4/2014 by 31 cfs and 29 cfs, respectively. WCA 3A was in Zone E and there was no regulatory component.
   d. The week ending on 8/15/2014 by 55 cfs. However, WCA 3A was in Zone D and the regulatory component exceeded the actual deliveries by 459 cfs.
   e. Three weeks from 10/31/2014 to 11/14/2014. The differences ranged between 198 cfs to 377 cfs. The WCA 3A was in Zone D. The actual delivery was 146 cfs lower than the regulatory component for 10/31, it was 523 cfs higher on 11/7, and it was 98 cfs lower on 11/14.
Table A1. Identification of Error

Beginning on January 3, 2014, the value for the weekly mean flow (QMN) in the CurrentWk tab (left side of figure) referenced values beyond the cell range of the 52 weekly mean flows in the QRFEV tab (right side of figure). The cell references in the QMN column were not manually set for 2014 to the corresponding flow weekly means.
Table A2. Correction of Error

To correct the error and to eliminate the need to manually set the cell references at the beginning of each year that the model data is extended, the VLOOKUP function is now used to automatically reference the corresponding weekly mean flow. Please note that some rows in the QRFEV tab displayed on the right are hidden for ease of presentation in this documentation.
Table A3. Extended Comparison of Original Target, Corrected Target, their Components, and Actual Flow

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<th>Zone, Bottom of Zone if Applicable</th>
<th>Original Target Flow</th>
<th>Corrected Target Flow</th>
<th>Corrected Minus Original Target</th>
<th>Actual Flow</th>
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<td>Corrected Minus Original Target</td>
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</table>

1. The hydrologic data assembled for the model is for the week ending on the Target Date (Friday). The SRS target weekly report is issued on Monday after the Target Date. The new SRS flows are initiated on Tuesday.

2. The bottom of the zone is shown with two decimal places for ease of comparison with the WCA 3A stage. However, this approximation will cause a rounding error that will not yield the exact regulatory component shown in the table. The spreadsheet model uses at least four decimal places for the bottom of the zone to calculate the regulatory component that is shown in the table.

3. The regulatory component is calculated as follows:
   - For Zone A = maximum per ERTP schedule
   - For Zone D/E1, from January 1 through June 30 = 2,500 × (WCA 3A stage – bottom of Zone D/E1)
   - For Zone D/E1, from July 1 through December 31 = 5,000 × (WCA 3A stage – bottom of Zone D/E1)
   - For Zone E = zero
   To obtain the exact value of the regulatory component shown in the table, the value for the bottom of the zone must include at least four decimal places, which is how it is calculated in the spreadsheet model.

4. The Actual Flow is calculated as S12s + S333 - S334. It is the average flow for the week that starts on Tuesday following the target date.
Figure A1. Extended Comparison of Rain-Driven Flow, Target Flow, and Actual Flow