

Results for Scenario 2, With Project:

**Effects on the Growth and Vegetative
Reproduction of Submerged Aquatic Plants**

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**Impacts (% Change) on Sago Pondweed Total
(Living+Dead) Biomass (g dry mass/m²) in
Pool 4 for Scenario 2, With Project**

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-0.9	-0.1	-0.3	-0.2	-0.1	-0.1	0
Mean Biomass	-1.0	-0.2	-0.4	-0.3	-0.2	-0.2	0
Maximum Biomass	-1.0	-0.2	-0.4	-0.3	-0.2	-0.2	0

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**Impacts (% Change) on Sago Pondweed Total
(Living+Dead) Biomass (g dry mass/m²) in
Pool 8 for Scenario 2, With Project**

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-0.2	0	-0.1	-0.1	-0.1	-0.1	0
Mean Biomass	-0.4	0	-0.2	-0.2	-0.2	-0.2	0
Maximum Biomass	-0.3	0	-0.15	-0.15	-0.15	-0.15	0

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**Impacts (% Change) on Sago Pondweed Total
(Living+Dead) Biomass (g dry mass/m²) in
Pool 13 for Scenario 2, With Project**

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-3.7	-0.93	-1.85	-1.85	-1.85	-1.85	-1.85
Mean Biomass	-3.7	-0.93	-1.85	-1.85	-1.85	-1.85	-1.85
Maximum Biomass	-3.8	-0.94	-1.9	-1.9	-1.9	-1.9	-1.9

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**Impacts (% Change) on Wild Celery Total
(Living+Dead) Biomass (g dry mass/m²) in
Pool 4 for Scenario 2, With Project**

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-3.0	-0.3	-0.4	-0.4	-0.3	-0.3	0
Mean Biomass	-3.0	-0.3	-0.4	-0.4	-0.3	-0.3	0
Maximum Biomass	-3.2	-0.3	-0.4	-0.4	-0.3	-0.3	0

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**Impacts (% Change) on Wild Celery Total
(Living+Dead) Biomass (g dry mass/m²) in
Pool 8 for Scenario 2, With Project**

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-0.7	0	-0.35	-0.35	-0.35	-0.35	0
Mean Biomass	-0.8	0	-0.4	-0.4	-0.4	-0.4	0
Maximum Biomass	-0.9	0	-0.45	-0.45	-0.45	-0.45	0

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Impacts (% Change) on Wild Celery Total (Living+Dead) Biomass (g dry mass/m²) in Pool 13 for Scenario 2, With Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-12.3	-3.08	-6.15	-6.15	-6.15	-6.15	-6.15
Mean Biomass	-12.3	-3.08	-6.15	-6.15	-6.15	-6.15	-6.15
Maximum Biomass	-12.7	-3.18	-6.35	-6.35	-6.35	-6.35	-6.35

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Impacts (% Change) on Sago Pondweed Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m² in Pool 4 for Scenario 2, With Project)

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-0.9	-0.1	-0.3	-0.2	-0.1	-0.1	0
Mean Biomass	-0.7	-0.05	-0.25	-0.25	-0.25	-0.25	0
Maximum Biomass	-0.9	-0.1	-0.3	-0.2	-0.1	-0.1	0

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Impacts (% Change) on Sago Pondweed Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m² in Pool 8 for Scenario 2, With Project)

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-0.3	0	-0.15	-0.15	-0.15	-0.15	0
Mean Biomass	-0.4	0	-0.2	-0.2	-0.2	-0.2	0
Maximum Biomass	-0.9	0	-0.45	-0.45	-0.45	-0.45	0

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Impacts (% Change) on Sago Pondweed Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m² in Pool 13 for Scenario 2, With Project)

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-3.8	-0.94	-1.9	-1.9	-1.9	-1.9	-1.9
Mean Biomass	-4.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0
Maximum Biomass	-3.8	-0.94	-1.9	-1.9	-1.9	-1.9	-1.9

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Impacts (% Change) on Wild Celery Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m² in Pool 4 for Scenario 2, With Project)

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-3.4	-0.34	-0.43	-0.43	-0.34	-0.34	0
Mean Biomass	-3.1	-0.31	-0.41	-0.41	-0.31	-0.31	0
Maximum Biomass	-2.5	-0.25	-0.3	-0.3	-0.25	-0.25	0

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Impacts (% Change) on Wild Celery Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m² in Pool 8 for Scenario 2, With Project)

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-1.0	0	-0.15	-0.15	-0.15	-0.15	0
Mean Biomass	-1.2	0	-0.2	-0.2	-0.2	-0.2	0
Maximum Biomass	-0.3	0	-0.45	-0.45	-0.45	-0.45	0

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Impacts (% Change) on Wild Celery Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m² in Pool 13 for Scenario 2, With Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-11.8	-2.95	-5.9	-5.9	-5.9	-5.9	-5.9
Mean Biomass	-12.3	-3.08	-6.15	-6.15	-6.15	-6.15	-6.15
Maximum Biomass	-10.0	-2.5	-5.0	-5.0	-5.0	-5.0	-5.0

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For Scenario 2, With Project:

- Because no impacts were observed as a result of the 25% increase in traffic scenario (higher traffic than this scenario):
- Vegetative reproduction of sago pondweed was not affected in Pools 4, 8, and 13.
- Vegetative reproduction of wild celery was not affected in Pools 8 and 13.

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Impacts (% Change) on Wild Celery Vegetative Reproduction in Pool 4 for Scenario 2, With Project

	25% Increase	2000	2010	2020	2030	2040	2050
Average Number/m ²	-0.2	-0.02	-0.03	-0.03	-0.02	-0.02	0
Maximum Number/m ²	-2.3	-0.23	-0.25	-0.25	-0.25	-0.25	0
Average Biomass/m ²	0	0	0	0	0	0	0
Maximum Biomass/m ²	-2.2	-0.22	-0.24	-0.24	-0.24	-0.24	0

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Results for Scenario 2, Without Project:

Effects on the Growth and Vegetative Reproduction of Submerged Aquatic Plants

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For Scenario 2, Without Project:

- In Pools 4 and 8, traffic was at or below 1992 baseline values.
- Therefore, this scenario would not affect the growth or vegetative reproduction of sago pondweed and wild celery in Pools 4 and 8.
- In addition, vegetative reproduction of wild celery was not affected in Pool 13.

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Impacts (% Change) on Sago Pondweed Total (Living+Dead) Biomass (g dry mass/m²) in Pool 13 for Scenario 2, Without Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-3.7	-0.93	-1.48	-1.48	-1.48	-1.48	-0.93
Mean Biomass	-3.7	-0.93	-1.48	-1.48	-1.48	-1.48	-0.93
Maximum Biomass	-3.8	-0.94	-1.52	-1.52	-1.52	-1.52	-0.94

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Impacts (% Change) on Wild Celery Total (Living+Dead) Biomass (g dry mass/m²) in Pool 13 for Scenario 2, Without Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-12.3	-3.08	-4.92	-4.92	-4.92	-4.92	-3.08
Mean Biomass	-12.3	-3.08	-4.92	-4.92	-4.92	-4.92	-3.08
Maximum Biomass	-12.7	-3.18	-5.08	-5.08	-5.08	-5.08	-3.08

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Impacts (% Change) on Sago Pondweed Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m²) in Pool 13 for Scenario 2, Without Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-3.8	-0.94	-1.52	-1.52	-1.52	-1.52	-0.94
Mean Biomass	-4.0	-1.0	-1.6	-1.6	-1.6	-1.6	-1.0
Maximum Biomass	-3.8	-0.94	-1.52	-1.52	-1.52	-1.52	-0.94

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Impacts (% Change) on Wild Celery Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m²) in Pool 13 for Scenario 2, Without Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-11.8	-2.95	-4.72	-4.72	-4.72	-4.72	-2.95
Mean Biomass	-12.3	-3.08	-4.92	-4.92	-4.92	-4.92	-3.08
Maximum Biomass	-10.0	-2.5	-4.0	-4.0	-4.0	-4.0	-2.5

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Impacts (% Change) on Sago Pondweed Vegetative Reproduction in Pool 13 for Scenario 2, Without Project

	25% Increase	2000	2010	2020	2030	2040	2050
Average Number/m ²	0	0	0	0	0	0	0
Maximum Number/m ²	-0.9	-0.225	-0.36	-0.36	-0.36	-0.36	-0.225
Average Biomass/m ²	0	0	0	0	0	0	0
Maximum Biomass/m ²	-0.4	-0.1	-0.16	-0.16	-0.16	-0.16	-0.1

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Impacts (% Change) on Sago Pondweed Total (Living+Dead) Biomass (g dry mass/m²) in Pool 4 for Scenario 3, With Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-0.9	0	0	-0.9	-0.9	-0.81	-0.72
Mean Biomass	-1.0	0	0	-1.0	-1.0	-0.8	-0.9
Maximum Biomass	-1.0	0	0	-1.0	-1.0	-0.8	-0.9

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Impacts (% Change) on Sago Pondweed Total (Living+Dead) Biomass (g dry mass/m²) in Pool 8 for Scenario 3, With Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-0.2	-0.02	0	-0.26	-0.2	-0.2	-0.18
Mean Biomass	-0.4	-0.04	0	-0.52	-0.4	-0.4	-0.36
Maximum Biomass	-0.3	-0.03	0	-0.39	-0.3	-0.3	-0.27

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Impacts (% Change) on Sago Pondweed Total (Living+Dead) Biomass (g dry mass/m²) in Pool 13 for Scenario 3, With Project

	50% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-5.4	-1.85	-1.85	-4.55	-4.60	-4.55	-4.55
Mean Biomass	-5.3	-1.85	-1.85	-4.55	-4.60	-4.55	-4.55
Maximum Biomass	-5.8	-1.9	-1.9	-4.8	-4.85	-4.8	-4.8

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Impacts (% Change) on Wild Celery Total (Living+Dead) Biomass (g dry mass/m²) in Pool 4 for Scenario 3, With Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-3.0	0	0	-3.0	-3.0	-2.4	-2.7
Mean Biomass	-3.0	0	0	-3.0	-3.0	-2.4	-2.7
Maximum Biomass	-3.2	0	0	-3.2	-3.2	-2.6	-2.9

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Impacts (% Change) on Wild Celery Total (Living+Dead) Biomass (g dry mass/m²) in Pool 8 for Scenario 3, With Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-0.7	-0.07	0	-0.91	-0.7	-0.7	-0.63
Mean Biomass	-0.8	-0.08	0	-1.04	-0.8	-0.8	-0.72
Maximum Biomass	-0.9	-0.09	0	-1.17	-0.9	-0.9	-0.81

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Impacts (% Change) on Wild Celery Total (Living+Dead) Biomass (g dry mass/m²) in Pool 13 for Scenario 3, With Project

	50% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-17.7	-6.15	-6.15	-15.0	-15.1	-15.0	-15.0
Mean Biomass	-17.6	-6.15	-6.15	-15.0	-15.1	-15.0	-15.0
Maximum Biomass	-18.6	-6.35	-6.35	-15.65	-15.7	-15.65	-15.65

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Impacts (% Change) on Sago Pondweed Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m² in Pool 4 for Scenario 3, With Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-0.9	0	0	-0.9	-0.9	-0.81	-0.72
Mean Biomass	-0.7	0	0	-0.7	-0.7	-0.63	-0.56
Maximum Biomass	-0.9	0	0	-0.9	-0.9	-0.81	-0.72

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Impacts (% Change) on Sago Pondweed Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m² in Pool 8 for Scenario 3, With Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-0.3	-0.03	0	-0.39	-0.3	-0.3	-0.27
Mean Biomass	-0.4	-0.04	0	-0.52	-0.4	-0.4	-0.36
Maximum Biomass	-0.9	-0.09	0	-1.17	-0.9	-0.9	-0.81

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Impacts (% Change) on Sago Pondweed Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m² in Pool 13 for Scenario 3, With Project

	50% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-5.7	-1.9	-1.9	-4.75	-4.8	-4.75	-4.75
Mean Biomass	-5.2	-2.0	-2.0	-4.6	-4.65	-4.6	-4.6
Maximum Biomass	-4.5	-1.9	-1.9	-4.15	-4.2	-4.15	-4.15

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Impacts (% Change) on Wild Celery Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m² in Pool 4 for Scenario 3, With Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-3.4	0	0	-3.4	-3.4	-3.06	-2.72
Mean Biomass	-3.1	0	0	-3.1	-3.1	-2.79	-2.48
Maximum Biomass	-2.5	0	0	-2.5	-2.5	-2.25	-2.0

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Impacts (% Change) on Wild Celery Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m² in Pool 8 for Scenario 3, With Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-1.0	-0.1	0	-1.3	-1.0	-1.0	-0.9
Mean Biomass	-1.2	-0.12	0	-1.56	-1.2	-1.2	-1.08
Maximum Biomass	-0.3	-0.03	0	-0.39	-0.3	-0.3	-0.27

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Impacts (% Change) on Wild Celery Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m² in Pool 13 for Scenario 3, With Project

	50% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-18.5	-5.9	-5.9	-15.15	-15.2	-15.15	-15.15
Mean Biomass	-17.3	-6.15	-6.15	-14.8	-14.9	-14.8	-14.8
Maximum Biomass	-15.7	-5.0	-5.0	-12.85	-12.9	-12.85	-12.85

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For Scenario 3, With Project:

- Because no impacts were observed as a result of the 25% increase in traffic scenario (higher traffic than this scenario):
- Vegetative reproduction of sago pondweed was not affected in Pools 4 and 8.
- Vegetative reproduction of wild celery was not affected in Pool 8.

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Impacts (% Change) on Sago Pondweed Vegetative Reproduction in Pool 13 for Scenario 3, With Project

	50% Increase	2000	2010	2020	2030	2040	2050
Average Number/m ²	0	0	0	0	0	0	0
Maximum Number/m ²	-4.5	0	0	-2.7	-2.7	-2.7	-2.7
Average Biomass/m ²	0	0	0	0	0	0	0
Maximum Biomass/m ²	-3.6	-0.2	-0.2	-2.0	-2.0	-2.0	-2.0

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Impacts (% Change) on Wild Celery Vegetative Reproduction in Pool 4 for Scenario 3, With Project

	25% Increase	2000	2010	2020	2030	2040	2050
Average Number/m ²	-0.2	0	0	-0.2	-0.2	-0.18	-0.16
Maximum Number/m ²	-2.3	0	0	-2.3	-2.3	-2.07	-1.84
Average Biomass/m ²	0	0	0	0	0	0	0
Maximum Biomass/m ²	-2.2	0	0	-2.2	-2.2	-1.98	-1.76

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Impacts (% Change) on Wild Celery Vegetative Reproduction in Pool 13 for Scenario 3, With Project

	50% Increase	2000	2010	2020	2030	2040	2050
Average Number/m ²	-0.2	0	0	-0.1	-0.1	-0.1	-0.1
Maximum Number/m ²	0	0	0	0	0	0	0
Average Biomass/m ²	-0.1	0	0	-0.5	-0.5	-0.5	-0.5
Maximum Biomass/m ²	0	0	0	0	0	0	0

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Results for Scenario 3, Without Project:

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For Scenario 3, Without Project:

- In Pools 4 and 8, traffic was at or below 1992 baseline values.
- Therefore, this scenario would not affect the growth or vegetative reproduction of sago pondweed and wild celery in Pools 4 and 8.
- In addition, vegetative reproduction of sago pondweed was not affected in Pool 13.

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Impacts (% Change) on Sago Pondweed Total (Living+Dead) Biomass (g dry mass/m²) in Pool 13 for Scenario 3, Without Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-3.7	-1.85	-1.85	-1.85	-1.48	-1.48	-1.48
Mean Biomass	-3.7	-1.85	-1.85	-1.85	-1.48	-1.48	-1.48
Maximum Biomass	-3.8	-1.9	-1.9	-1.9	-1.52	-1.52	-1.52

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Impacts (% Change) on Wild Celery Total (Living+Dead) Biomass (g dry mass/m²) in Pool 13 for Scenario 3, Without Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-12.3	-6.15	-6.15	-6.15	-4.92	-4.92	-4.92
Mean Biomass	-12.3	-6.15	-6.15	-6.15	-4.92	-4.92	-4.92
Maximum Biomass	-12.7	-6.35	-6.35	-6.35	-5.08	-5.08	-5.08

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Impacts (% Change) on Sago Pondweed Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m²) in Pool 13 for Scenario 3, Without Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-3.8	-1.9	-1.9	-1.9	-1.52	-1.52	-1.52
Mean Biomass	-4.0	-2.0	-2.0	-2.0	-1.6	-1.6	-1.6
Maximum Biomass	-3.8	-1.9	-1.9	-1.9	-1.52	-1.52	-1.52

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Impacts (% Change) on Wild Celery Annual Gross Production (g CO₂/m²) and Living Biomass (g dry mass/m²) in Pool 13 for Scenario 3, Without Project

	25% Increase	2000	2010	2020	2030	2040	2050
Annual Sum	-11.8	-5.9	-5.9	-5.9	-4.72	-4.72	-4.72
Mean Biomass	-12.3	-6.15	-6.15	-6.15	-4.92	-4.92	-4.92
Maximum Biomass	-10.0	-5.0	-5.0	-5.0	-4.0	-4.0	-4.0

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Impacts (% Change) on Sago Pondweed Vegetative Reproduction in Pool 13 for Scenario 3, Without Project

	25% Increase	2000	2010	2020	2030	2040	2050
Average Number/m ²	0	0	0	0	0	0	0
Maximum Number/m ²	-0.9	-0.45	-0.45	-0.45	-0.36	-0.36	-0.36
Average Biomass/m ²	0	0	0	0	0	0	0
Maximum Biomass/m ²	-0.4	-0.2	-0.2	-0.2	-0.16	-0.16	-0.16

DRAFT
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