Errata

Mount Rainier National Park
Fish Management Plan Environmental Assessment

Note: In the following citations, underlined information is inserted, struck-out information is removed.

The following information on page 4 has been modified as shown:

~~Originally fishless, there are now 35 lakes with reproducing nonnative fish populations. Approximately 29 of these lakes are in designated wilderness. Among those waterbodies not in wilderness are the Littorals Pond (White River watershed) and Mowich and Tipsoo lakes.~~ Nine of the original 44 stocked lakes are fishless. All of the lakes with fish, except for the Littorals Pond (White River Watershed) and Tipsoo Lake (Ohanapecosh Watershed) are in wilderness. Therefore 33 of 35 lakes with reproducing populations of fish are in designated wilderness.

In addition to gillnets and electrofishing, the park would employ limited use of chemical piscicides in high elevation lakes and the White River Ponds, if mechanical removal proves ineffective in eliminating nonnative fish (after up to five years of monitoring).

The following information on page 17 has been modified as shown:

- Nonnative fish suppression and/or eradication from selected areas using citizen science angling, gillnetting in lakes and lake outlets, seining in streams, electrofishing, a fish weir (trap), and piscicides. Mechanical treatments (electrofishing, gillnetting, and weir traps) would be implemented for up to five years and evaluated for success before chemical treatments are proposed.
- ~~Required~~ Retention of brook trout throughout the park, and ~~rainbow trout and~~ kokanee retention in ~~select watersheds~~ the Nisqually watershed.
- ~~Dead and Artificial bait can be used.~~
- ~~Required~~ Retention of all species caught.

The following information on page 21 has been modified as shown:

In addition to gillnets and electrofishing, the park would employ limited use of chemical piscicides in high elevation lakes and the White River Ponds if mechanical removal proves ineffective in eliminating nonnative fish (after up to five years of monitoring) or where mechanical treatment is infeasible.

The following information on page 23 has been modified as shown:

5. Identify all potential treatment lakes which improve climate change resilience for sensitive amphibians. (There are ~~23~~20 lakes where climate change resilience for amphibians could be improved.)

The following information on page 35 has been modified as shown:

These beneficial effects ~~would be more likely to~~ could occur because the park's lakes are nutrient poor (oligotrophic). Fish disposal in other parks has been known to locally increase nitrogen, phosphorus, and dissolved organic carbon (Premke et al. 2010 *in* NPS SEKI 2016). A range of adverse effects could also result from the influx of nutrients in an otherwise nutrient poor environment. Lakes could also experience algae blooms, nutrient cycling effects, and fluctuation of bacterial concentrations over several seasons from lake mixing and fish decomposition processes, and from the concentration of fish carcasses in backwater areas.

The following information on page 43 has been modified as shown:

~~According to a University of Washington study,~~ Approximately 70 percent of lakes over 6.5 feet deep in the park contain nonnative fish (~~Ryan 2014~~park unpublished data). This currently leaves approximately one-third of the deepwater habitats typically inhabited by *A. gracile* (northwestern

salamander) and *R. cascadae* (cascades frog) without fish (Larson 2016).[1] Climate change threatens to eliminate many ephemeral habitats and shorten wetland hydroperiods (Ryan 2014) further reducing suitable habitat available to native amphibians. ~~Because of the probability of droughts causing lake drying related to climate change, this leaves approximately one-third of the deepwater habitats in the park critical for amphibians if dying associated with climate change continues (Ryan 2014).~~

The following information on page 59, under Impact Avoidance, Minimization and Avoidance Measures, has been modified as shown:

- No limits, no season fishing with ~~required~~ retention of nonnative fish would be implemented for all lakes in the park.
- Minimize total mortality from non-native fish removal activities in bull trout habitat by counting likely delayed mortalities towards the limit of one bull trout mortality per year for each activity at each site.
- Minimize disruption to bull trout migration up- and downstream at fish weirs by checking traps and providing passage for bull trout twice daily.
- Replace the lowest culvert on the White River Campground last.

Coordinate information has been added to Appendix 2. See next page.

1 Larson, G.L., R.L. Hoffman, R. Lofgren, B. Samora, S. Anderson. 2016. Increased amphibian presence in a montane lake after fish removal. Unpublished report Mount Rainier National Park, Washington.

Appendix 2

Priority	Name	Watershed	Depth(M)	Acres	Elev.(M)	Stream Habitat(M)	Brook trout	Rainbow	Coastal Cutthroat	Non-native Cutthroat	Kokanee	Longitude (W)	Latitude (N)
1	Littorals Pond	White River	2	0.38	1123	180	x					121° 35.688'	46° 53.507'
2	Unnamed Lake	Puyallup	12	3.94	1371	150	x					121° 53.705'	46° 49.369'
3	Unnamed Lake	Huckleberry	8.9	6.24	1685	50	x					121° 39.484'	46° 56.571'
4	WR Ranger Pond	White River	4.9	0.36	973	10	x		x			121° 32.809'	46° 55.579'
5	WR Ranger Pond	White River	3.2	0.22	981	80	x		x			121° 32.749'	46° 55.651'
6	WR Ranger Pond	White River	5	0.66	984	320	x		x			121° 32.642'	46° 55.791'
7	Golden Lakes	Mowich	24	18.15	1370	100	x					121° 54.002'	46° 53.329'
8	Golden Lakes	Mowich	0.5	2.58	1290	150	x					121° 54.342'	46° 53.392'
9	Tipsoo Lake	Ohanapecosh	2.6	4.57	1615	150		x				121° 31.036'	46° 52.143'
10	Bear Park Lake	White River	3.5	2.36	1646	375				x		121° 34.270'	46° 57.361'
11	Louise Lake	Cowlitz	17.2	18.98	1402	380	x					121° 43.055'	46° 46.232'
12	Mystic Lake	West Fork	3.5	7.40	1739	450				x		121° 45.258'	46° 54.803'
13	Unnamed Lake	Ohanapecosh	3.9	8.36	1414	350				x		121° 29.458'	46° 48.910'
14	Blue Lake	Cowlitz	10.5	14.08	1331	370		x				121° 40.678'	46° 44.177'
15	Lake James	West Fork	23	16.53	1348	400		x				121° 44.098'	46° 57.974'
16	Lake Eleanor	Huckleberry	16	17.20	1521	400		x				121° 39.442'	46° 59.435'
17	Green Park Lake	Huckleberry	10	7.90	1657	750				x		121° 37.140'	46° 57.205'
18	Green Lake	Carbon	29	12.54	973	780				x		121° 51.559'	46° 58.616'
19	Lake Ethel	West Fork	29.5	26.49	1327	100		x				121° 44.312'	46° 58.173'
20	Mowich Lake	Mowich	60	114.32	1505	115	sculpin				x	121° 51.727'	46° 56.298'
	Lower Palisades Lake	Huckleberry	5.9	3.94	1678		x					121° 35.410'	46° 57.251'
	Unnamed Lake	Huckleberry	2.7	1.08	1664		x					121° 35.597'	46° 57.335'
	Reflection Lakes	Nisqually	1.6	0.42	1484		x					121° 43.564'	46° 46.234'
	Reflection Lakes	Nisqually	11.5	17.83	1481		x					121° 43.803'	46° 46.171'
	Snow Lake	Cowlitz	10.7	5.93	1427		x					121° 41.867'	46° 45.449'
	Bench Lake	Cowlitz	11	8.24	1385		x			x		121° 41.867'	46° 45.449'
	Deadwood Lakes	White River	3.5	7.23	1600			x				121° 31.485'	46° 53.337'
	Deadwood Lakes	White River	2.7	7.61	1597			x				121° 31.325'	46° 53.193'

	Adelaide Lake	West Fork	4	7.28	1383			x				121° 44.495'	46° 58.998'
	Marjorie Lake	West Fork	8	10.42	1391			x				121° 44.528'	46° 58.703'
	Oliver Lake	West Fork	21	22.59	1392			x				121° 44.794'	46° 58.786'
	Unnamed Lake	White River	5.7	1.26	1469					x		121° 33.616'	46° 58.746'
	Unnamed Lake	White River	6.4	2.44	1522					x		121° 33.776'	46° 58.646'
	Lake George	Nisqually	42.5	35.54	1307		sculpin					121° 54.206'	46° 47.313'
	Unnamed Lake	Carbon	unknown	5.70	1611			x				121° 49.901'	46° 56.992'
	Lakes that would be gillnetted/electrofished for up to five years then evaluated for piscicide use												
	Lakes that would likely require piscicide treatment for successful eradication												
	Habitat complexity lead to lower probability of successful eradication and lowered priority												
	Complex connected habitats or problematic access excluded from priorities due to feasibility concerns												