

POSSIBLE UPDATES AND REVISIONS TO WATER MANAGEMENT REGULATIONS

The Alaska Department of Natural Resources is considering updating the regulations implementing AS 46.15.145 Reservations of water:

- 11 AAC 93.141: Application for a reservation of water
- 11 AAC 93.142: Content of application
- 11 AAC 93.143: Incomplete application
- 11 AAC 93.144: Departmental investigations
- 11 AAC 93.145: Adjudication of applications
- 11 AAC 93.146: Issuance of a certificate of reservation of water
- 11 AAC 93.147: Review of reservation of water



If you would like to provide feedback, get more information, or sign up for updates to the project please visit

<https://dnr.alaska.gov/mlw/water/regrevision/>

8/12/2024 MEETING AGENDA

4:30 – Welcome and General Information

4:45 – Presentation

5:15 – Question and Answer Period (limit questions to regulations discussed today)

5:45 – Feedback from the Public (feedback is limited to 2 minutes)

6:25 – Closing Remarks

*Times are approximate

ALASKA RESERVATION OF WATER PROGRAM OVERVIEW

Public Notice/Scoping Meeting

Presented by:

**Tom Barrett, Water Resources Section Chief
Kimberly Sager, Reservation of Water Program Lead
Division of Mining, Land & Water
Alaska Department of Natural Resources**

August 12, 2024



WHAT IS A RESERVATION OF WATER?

A reservation of water is an appropriation of water that protects specific water uses in rivers and lakes (retaining water within the system).

Instream or Lake Uses

Water needed within the river/lake system to carry out vital functions



Vs.

Traditional Water Rights

Water is removed from a river/lake system, or the flow regime is altered



FOUR PURPOSES FOR RESERVATION OF WATER

- Protection of fish and wildlife habitat, migration, & propagation;
- Recreation and park purposes;
- Navigation and transportation;
- Sanitary and water quality purposes.



WHO CAN APPLY FOR A RESERVATION?

AS 46.15.145 (a)

- An agency of the State of Alaska (i.e. ADF&G)
- An agency or a political subdivision of the State of Alaska (i.e. Boroughs)
- An agency of the United States (i.e. Federal)
- Or a person (which includes individuals, organizations, and tribes)

IF ADJUDICATION IS APPROVED, THEN:

AS 46.15.145 (c)

The commissioner shall issue a certificate if:

1. The rights of prior appropriators will not be affected by the reservation;
2. The applicant has demonstrated that a need exists for the reservation;
3. There is unappropriated water in the stream or body of water sufficient for the reservation;
4. The proposed reservation is in the public interest.

PUBLIC INTEREST CRITERIA

AS 46.15.080 (b)

In determining the public interest, DNR considers:

1. Benefit to the applicant.
2. Effects to existing/near future economic activity.
3. Effect on fish & game resources/public recreational opportunities.
4. Effect on public health (water quality).
5. Effect of loss of alternate water uses that might be made within a reasonable time if not precluded or hindered by the proposed appropriation.
6. Harm to other persons.
7. Intent/ability of the applicant to complete the appropriation.
8. Effect upon access to navigable or public waters.

REVIEW OF CERTIFICATE

- **Reservation Reviews**
 - Can be conducted for several reasons (11 AAC 93.147)
- **10-year review** (AS 46.15.145(f))
 1. Purpose/need.
 2. Effects on prior appropriation/public interest.
 3. New beneficial use proposed?
 4. New info? [New climate normals (30 year 1991-2020)]
 5. Flows still adequate?
 6. Time periods still apply?
 7. Additional analysis or research available?

TOPICS OF CONCERN/ISSUES

1. Reserving too much water.
2. Need.
3. ADF&G Title 16 Fish Habitat Permit are adequate.
4. Streamflow methods used.
5. Public interest criteria.
6. Rigorous process.
7. Only real-life threats to fish habitat and no effective permitting scheme.
8. The data is old vs. updated data?

LET'S TAKE A LOOK AT EACH ONE OF THESE

CONCERN #1: Reservations of Water reserve too much water

Time Period	Time Period Mean Flow (cfs)	Applicant Flow Request (cfs)	Adjudicated Flows (cfs)	Remaining Flows (cfs)	Remaining Flows (gpd)
January	6.2	4.0	3.0	3.2	2,068,070
February	2.6	1.0	1.0	1.6	1,034,035
March	2.2	1.0	0.7	1.5	969,408
April	3.8	1.1	1.0	2.8	1,809,562
May 1-7	56	18	10	46	29,728,512
May 8-15	520	135	75	445	287,591,040
May 16-23	1,900	1,450	836	1,064	687,633,408
May 24-31	3,377	2,545	2,150	1,227	792,975,744
June 1-7	4,904	4,600	3,520	1,384	894,440,448
June 8-15	3,910	3,860	2,750	1,160	749,675,520
June 16-23	3,145	3,095	2,300	845	546,099,840
June 24-30	2,297	2,175	1,400	897	579,705,984
July 1-15	1,501	1,190	920	581	375,484,032
July 16-31	1,472	1,270	1,000	472	305,040,384
August 1-15	1,511	1,130	800	711	459,499,392
August 16-31	1,673	1,100	836	837	540,929,664
September 1-15	1,286	900	660	626	404,566,272
September 16-23	966	806	520	446	288,237,312
September 24-30	621	555	408	213	137,655,936
October 1-7	369	319	209	160	103,403,520
October 8-15	228	180	160	68	43,946,496
October 16-31	129	120	94	35	22,619,520
November	53	50	30	23	14,864,256
December	21	10	10	11	7,108,992

CONCERN #2: The “need” for a reservation

The “need” is different than the “purpose.”

Purpose = 1 or more of the 4 purposes stated in law

1. Protection of fish and wildlife habitat, migration, & propagation;
2. Recreation and park purposes;
3. Navigation and transportation; and/or
4. Sanitary and water quality purposes.

Need = defining the purpose more

Why this river and why now?

CONCERN #3: ADF&G Title 16 Fish Habitat Permit would be sufficient

- Title 16 permits are used when a water source is home to fish species and those species will be impacted by a proposed project
- Reservations of water provide protections to habitat that fish and/or wildlife use

CONCERN #4: The streamflow methods used to analyze data are not sufficient

- The methods used to analyze streamflow data for the purpose of fish habitat vary; however, the factors below are primarily used in combination.
 - 1) *Exceedance charts;*
 - 2) *Hydrologic variability; and*
 - 3) *Fish periodicity.*
- Exceedance Charts – Shows on average the percentage of time a specific flow is met or exceeded.

METHODS: Hydrologic Variability

Gage data is analyzed and reviewed for differences throughout the months

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1964						17,080	9,820	8,396	3,815	3,115	1,568	1,100
1965	720	620	540	580	3,474	11,090	12,180	11,150	10,610	4,438	1,460	875.8
1966	711.3	526.1	395.2	421.7	2,410	12,970	10,100	10,730	5,370	2,388	896.7	750
1967	637.1	546.4	471	426.7	4,112	9,286	12,600	14,160	6,971	2,023	1,253	986.8
1968	851	776.6	743.2	982.7	8,840	14,100	11,230	7,546	4,120	1,637	826.7	556.5
1969	459.4	401.4	380	518.7	3,869	5,207	7,080	3,787	2,070	1,450	765	587.1
1970	504.2	457.9	440	545	3,950	7,979	10,320	8,752	5,993	2,817	1,647	1,103
1971	679	458.6	401.9	502.7	2,145	19,040	11,760	16,770	5,990	2,632	1,310	845.2
1972	727.4	627.6	481	518.7	3,516	12,700	12,030	9,576	8,709	3,630	1,373	888.7
1973	748.4	653.6	574.2	576.7	3,860	12,210	7,676	9,927	3,861	1,807	960	745.2
1974	645.2	558.9	482.3	535	5,678	8,030	7,755	7,704	4,763	1,967	1,002	774.2
1975	693.5	585.7	508.1	521.7	4,084	13,180	12,070	8,487	7,960	2,884	773.3	558.1
1976	524.2	480	469.7	613.3	3,433	10,580	9,026	8,088	3,205	1,857	1,105	1,069
1977	700.3	549.3	505.8	548	4,244	16,280	9,344	8,005	5,963	3,268	1,121	859.7
1978	745.8	575.7	485.2	534	2,950	7,429	10,790	7,001	3,567	1,660	1,198	932.3
1979	761.9	652.1	577.4	709.7	7,790	12,010	14,440	8,274	4,039	3,379	1,718	867.7
1980	808.1	741.4	700	1,038	4,823	11,380	13,900	7,224	5,402	2,600	1,144	717.4
1981	651.6	534.6	545.5	671.3	4,523	6,583	15,410	14,680	4,384	2,346	1,236	708.4
1982	650	466.8	284.8	480	3,313	12,940	11,070	7,271	9,555	3,351	1,243	1,082
1983	836.1	580	585.5	668.7	4,551	9,013	8,703	8,803	3,944	3,280	1,097	780.6
1984	690.3	625.9	600	555.3	4,008	9,328	8,896	9,762	3,816	2,197	1,158	896.8
1985	716.8	547.5	497.6	522	4,174	10,400	11,140	10,180	8,425	3,317	1,002	783.2
1986	680.6	590.4	400.3	395.7	2,538	6,209	9,149	8,032	6,889	10,000	1,992	1,122
1987	831.6	736.8	659.4	893.7	5,062	9,712	11,070	9,872	5,358	1,723	1,137	964.5
1988	817.7	706.9	606.5	595	5,271	10,110	9,675	7,974	5,123	2,504	1,133	964.5
1989	696.8	576.8	550	600	3,628	10,660	8,356	12,410	8,550	4,102	1,553	1,050
1990	996.5	990	1,058	1,912	11,510	13,110	8,451	8,706	11,000	2,206	820	672.6
1991	609.7	407.1	340	716	6,163	12,780	9,972	6,361	4,077	1,898	671.7	540.3
1992	494.2	480	521	690	2,800	10,370	11,170	8,528	3,992	1,573	1,213	961.3
1993	716.1	551.8	501.6	907	10,190	11,570	9,208	8,387	12,090	5,151	1,680	967.7
1994	790.3	675	530.6	1,053	6,320	13,600	8,643	8,827	3,014	1,813	973.3	772.6
1995	637.1	547.9	540	628.7	6,738	10,260	10,220	7,483	7,629	2,502	1,089	538.4
1996	456.8	440	467.1	749.3	4,721	6,179	8,066	8,373	3,601	1,424	808.3	698.4
1997	616.1	545	478.1	609	3,794	7,607	10,250	10,470	5,384	1,590	718.3	569.4
1998	481.3	446.4	412.9	660	3,988	10,440	11,120	9,241	6,331	3,059	1,242	872.6
1999	666.1	485.7	374.2	491.9	3,668	9,691	9,476	11,420	4,439	2,737	1,267	833.9
2000	648.4	562.1	500	658.3	4,492	15,190	13,840	6,336	6,234	3,201	1,253	863.4
2001	714.5	597.5	525.5	613.3	3,623	12,340	8,008	8,357	4,146	2,025	943.3	664.5
2002	538.7	492.9	430.3	439	7,203	6,543	7,210	10,150	8,700	5,742	2,400	1,020
2003	464.2	512.5	417.4	1,025	4,443	9,840	12,050	8,271	4,455	2,920	1,383	816.1
2004	655.8	541.4	481.9	843.3	7,532	8,711	8,947	7,231	2,992	2,779	1,225	776.5
2005	682.3	578.6	666.1	1,967	14,240	16,470	10,940	8,697	10,960	3,704	880	771
2006	671	514.3	479	573.3	4,675	7,698	9,054	13,320	5,439	6,152	1,458	664.5
2007	500	382.1	309.4	717	3,266	5,481	8,522	8,591	6,699	2,686	1,058	614.5
2008	479	413.8	416.1	530.5	3,795	8,518	8,455	8,542	5,442	2,449	872.7	693.7
2009	653.9	546.6	516.9	822.7	7,791	8,873	7,956	6,712	4,541	3,531	1,679	833.9

← Monthly means
VS.
Daily means →

Day of the Month	Jan	Feb	Mar	Apr	May	Sep	Oct	Nov	Dec
1	736	618	534	516	1,650	7,110	4,490	1,740	963
2	733	617	533	520	1,790	7,020	4,240	1,700	947
3	730	616	533	521	1,970	6,860	4,030	1,630	933
4	729	614	531	525	2,130	6,710	3,900	1,570	924
5	729	612	529	526	2,280	6,640	3,860	1,530	916
6	717	607	526	530	2,430	6,620	3,810	1,490	903
7	712	605	525	535	2,570	6,500	3,670	1,460	892
8	709	603	522	545	2,850	6,370	3,680	1,440	881
9	705	598	520	554	3,110	6,240	3,630	1,400	871
10	703	595	518	564	3,300	6,380	3,900	1,360	864
11	696	593	518	575	3,590	6,260	4,600	1,340	856
12	692	590	517	582	3,990	6,250	3,890	1,320	853
13	689	587	518	592	4,390	6,690	3,510	1,280	848
14	686	583	516	608	4,740	6,410	3,350	1,250	843
15	684	580	516	625	5,000	6,420	3,210	1,210	830
16	680	573	512	642	5,150	6,310	3,110	1,170	821
17	679	569	513	662	5,310	5,930	2,960	1,150	817
18	676	567	512	680	5,500	5,670	2,840	1,130	814
19	673	565	511	706	5,680	5,540	2,730	1,120	808
20	670	561	512	737	6,030	6,000	2,600	1,100	804
21	664	556	512	777	6,370	6,460	2,470	1,090	797
22	661	552	512	821	6,680	5,900	2,340	1,080	790
23	659	550	512	884	6,880	5,560	2,250	1,070	781
24	658	548	511	966	7,300	5,380	2,170	1,050	776
25	654	546	511	1,070	7,790	5,230	2,120	1,030	774
26	647	541	513	1,170	8,190	5,060	2,060	1,020	764
27	645	540	513	1,260	8,470	4,960	1,990	1,010	762
28	637	538	513	1,330	8,850	4,740	1,970	1,010	760
29	632	535	514	1,450	9,170	4,740	1,930	998	757
30	629		515	1,550	9,540	4,690	1,870	1,000	755
31	627		515		9,790		1,820		751

If the month is broken up, then you would have an accurate picture of flows.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	767	633	531	501	989	9,870	10,800	11,500	6,140	4,190	1,540	951
2	765	631	530	502	1,070	9,830	10,200	12,000	6,320	3,940	1,520	941
3	759	630	529	502	1,150	10,100	9,580	10,900	6,250	3,740	1,470	933
4	758	629	529	504	1,250	10,400	9,440	10,100	6,150	3,560	1,420	926
5	760	626	527	505	1,370	10,400	9,660	9,650	6,030	3,470	1,400	920
6	741	614	521	507	1,550	10,600	9,670	9,550	5,890	3,410	1,340	909
7	737	610	520	507	1,740	11,000	10,000	9,730	5,860	3,220	1,320	904
8	731	604	520	509	2,010	10,500	9,800	10,100	5,980	3,150	1,330	892
9	725	597	516	509	2,240	10,200	9,570	11,100	5,630	3,120	1,310	889
10	721	595	514	510	2,330	10,900	10,300	11,300	5,260	3,640	1,290	887
11	711	591	513	517	2,520	11,800	11,500	10,100	5,590	5,550	1,300	874
12	707	589	512	519	2,870	11,700	11,300	10,000	5,720	4,220	1,280	868
13	705	586	512	520	3,240	11,200	11,400	10,600	6,180	3,560	1,240	864
14	703	583	511	524	3,600	10,700	11,300	11,000	6,120	3,300	1,190	862
15	702	581	511	530	3,900	11,400	11,600	10,300	6,890	3,140	1,160	857
16	693	573	508	540	4,040	11,800	11,400	9,940	6,810	2,940	1,130	845
17	691	572	507	550	4,080	11,400	11,000	9,600	5,860	2,760	1,100	839
18	687	570	508	559	4,230	10,900	10,400	8,950	5,690	2,650	1,080	837
19	684	566	506	573	4,450	10,900	10,800	8,490	5,560	2,530	1,070	830
20	680	561	506	590	4,680	10,500	11,600	8,460	5,870	2,380	1,060	826
21	676	556	504	615	4,980	10,500	11,600	8,630	6,030	2,290	1,040	816
22	673	554	504	641	5,450	11,400	10,700	8,900	5,550	2,170	1,030	811
23	669	551	504	660	5,760	11,000	10,600	8,660	5,360	2,110	1,020	807
24	667	549	502	680	6,510	10,900	10,600	8,410	5,240	2,020	1,010	797
25	666	547	502	713	7,040	10,700	11,400	8,440	5,010	1,950	1,000	796
26	658	535	503	749	7,300	10,600	11,500	7,960	4,730	1,860	992	785
27	657	533	503	795	7,700	10,600	11,300	7,290	4,880	1,800	1,000	782
28	646	533	502	832	8,230	10,900	11,100	7,440	4,590	1,740	1,000	783
29	643	623	503	873	8,600	11,000	10,500	6,850	4,460	1,680	988	782
30	641		504	930	8,670	11,300	10,600	6,580	4,460	1,640	977	782
31	640		505		9,030		11,400	6,390		1,600		780

CONCERN #5: Evaluating the public interest criteria

Every point of the public interest criteria is analyzed and addressed critically.

- Example of the Public Interest Criteria for 10-Year Reviews

(applications are much more extensive)

A. Review of a reservation of water (according to 11 AAC 93.147 (b)):

(b) Upon review of a reservation of water, the commissioner will determine

1. Does the purpose for the reservation still apply? YES NO
2. Does the need for the reservation still exist? YES NO
3. Are there any effects on prior appropriators due to the reservation? YES NO
4. Are there any effects on the public interest due to the reservation? YES NO

Public Interest Criteria:

• Is there still a benefit to the certificate holder as a result of the reservation?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
• Is there any effect of the economic activities resulting from the reservation?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
• As a result of the reservation, is there any change to effects on fish and game resources and public recreational opportunities?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
• As a result of the reservation, is there any effect on public health?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
• As a result of the reservation, is there any effect of loss of alternate uses of water that might be made within a reasonable time if not precluded or hindered by the certificate?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
• As a result of the reservation, is there any harm to other persons?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
• As a result of the reservation certificate, is there intent and ability of the certificate holder to complete the appropriation?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
• As a result of the reservation certificate, is there any effect upon access to navigable or public waters?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A

CONCERN #6: Reservations need to go through a rigorous process

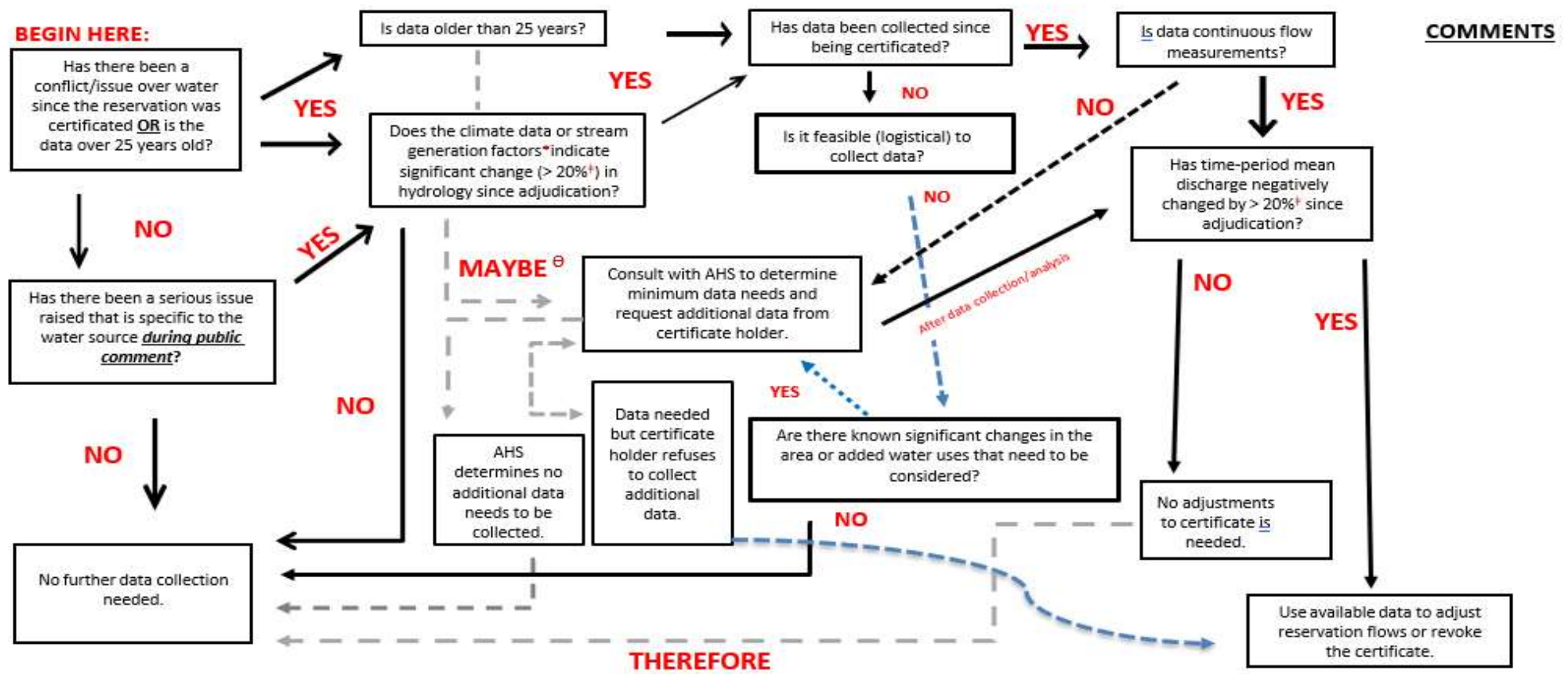
- Large projects or any industrial project has the potential to change or eliminate habitat all together. NEPA and FERC processes can eliminate the need for reservations or work with reservations.
 - Reservations do not negatively change or eliminate habitat but maintain what is already there or help prevent further habitat loss.
- Applications for a reservations of water are \$1,500, which is based on an estimated amount of staff hours in processing time.

CONCERN #7: Reservations should only occur where real life threats to fish habitat exist

- Having a reservation in place already quantifies the required amount of water that needs to be left within a system based on the hydrology.
- There are other environmental factors such as warming waters, isostatic rebound, glacial retreat, etc. that can change hydrology over time.

CONCERN #8: Older data and when to update

- Alaska is a state that is gage poor
 - Having current, active gaging is hard to find = logistics and costs.
 - Depending on what gage data is available, the need for current data may not be warranted.
 - If a conflict occurs, then current gaging can be required.
- A chart has been designed to determine whether additional data is necessary. This is used primarily with reservation reviews.



Instructions: Highlight the boxes and arrows as you follow along for the decision-making process to determine whether additional data is needed. Once completed, make sure you justify your pathway in decision making through written documentation.

*Stream generation factors may include land cover, groundwater, glacier mass balance, isostatic rebound, and permafrost
 ⊖ There are many factors that would create a known change in hydrology but may not be documented through gaging.
 † Richter, B., J. V. Baumgartner, R. Wigington, and D. P. Braun; *How much water does a river need?* *Freshwater Biology* (1997) 37, 231-249

Adjudicator _____

NEXT STEPS

- Feedback received during the scoping session will be considered when/if developing draft regulations
- Available for further Q&A
- 08/30/2024 Close of scoping period
- Fall of 2024 – DNR to consider feedback from scoping period and potentially develop draft regulation changes
- Any proposed regulation changes will undergo a public notice and review process

THANK YOU

Contacts:

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Questions and Feedback

Please Be Courteous and Respectful

Question and Answer Segment

Please limit your questions to the regulations discussed during the presentation

Feedback Segment

Presenters have 2 minutes to provide feedback

If regulations are proposed after the scoping period, there will be an additional comment opportunity.

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