Reservations of Water in Alaska

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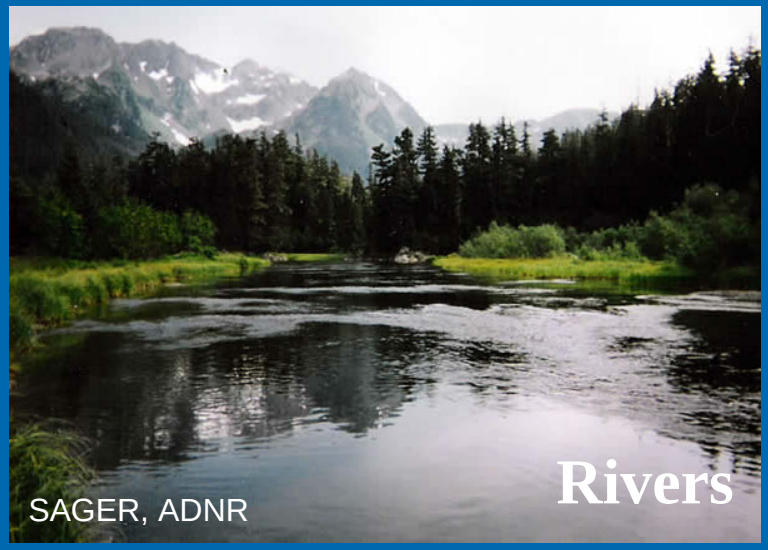
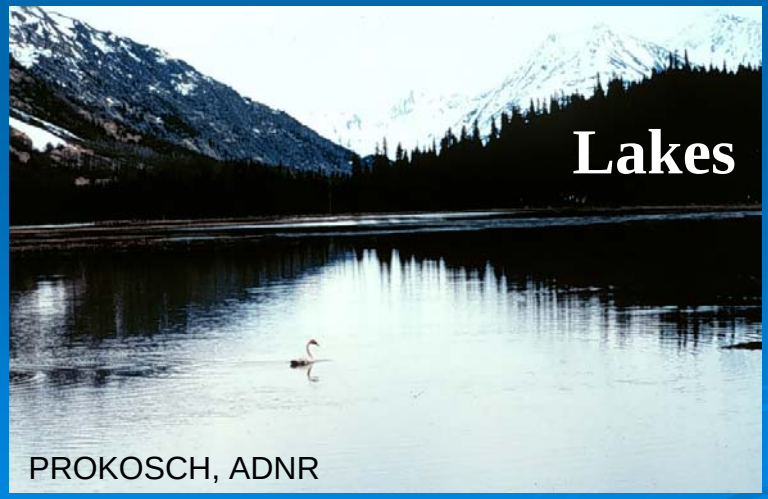
WHAT IS A RESERVATION OF WATER?





A reservation of water means:

To appropriate water for maintaining a specified instream flow or level of water at a specified point on a stream or water body or in a specified part of a stream or water body for specified periods of time and for one or more permissible purposes.

OR IN A NUTSHELL:

A reservation of water is a water right that protects specific water uses in rivers and lakes.

Instream vs. Out-of-Stream Uses of Water

Instream:

Water needed in the system (river or lake) to carry out vital functions

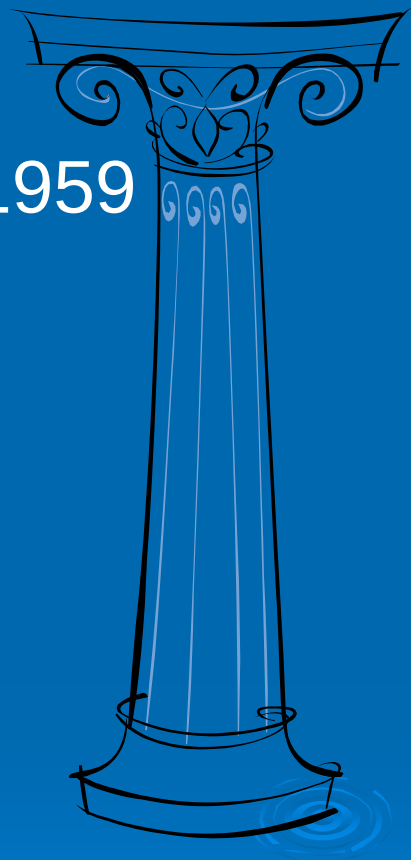
- Fish and Wildlife
- Recreation/Aesthetics
- Navigation
- Water Quality

Out of Stream:

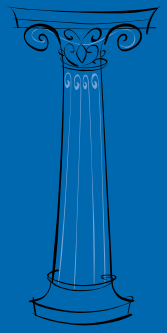
Water removed from the system or flow regime is altered

- Power Generation
- Domestic/Industrial
- Irrigation
- Mining
- Recreational (snowmaking)

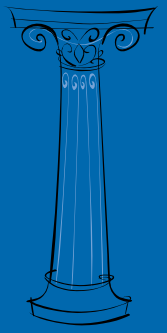
Summary of Alaska's Water Law



- Alaska's Constitution – public resource 1959
  - Article VIII, Sections 3 & 13
    - Sec 3: Common Use
    - Sec 13: Water Rights
- Alaska Water Use Act (AS 46.15) 1966
  - Instream Flow Amendment (AS 46.15.145) 1980



Instream Flow Amendment (AS 46.15.145)



- Set forth procedure for obtaining water rights for instream uses (see also 11 AAC 93.141- .147)
- Allows any person or entity to apply for reservations of water in rivers or lakes
- Allows up to 3 years after filing to quantify proposed reservation with possible 2 year extension, if granted by DNR, to support analysis to substantiate amount of water required.

Reservation of Water

An application is submitted to DNR and must contain supporting data and analyses to adjudicate the case

Adjudication – administrative determination of the validity and amount of water right, including the settlement of conflicting claims among competing appropriators (Estes 1998).

(Albert 2001)

4 Categories of Instream Flow Uses

John Hyde ADF&G

Robert Angell, AK Div. Of Tourism

(USGS 1996)

(USGS 1996)

Measuring Stream Discharge/Water Level

- USGS stream gaging stations collect discharge (flow) data which are compiled and published.
- This data is the most comprehensive source of information on the amount of discharge in a stream and water levels.

USGS

ADNR

ADF&G Mission Statement

The Fish and Game Act mandates the Alaska Department of Fish and Game to

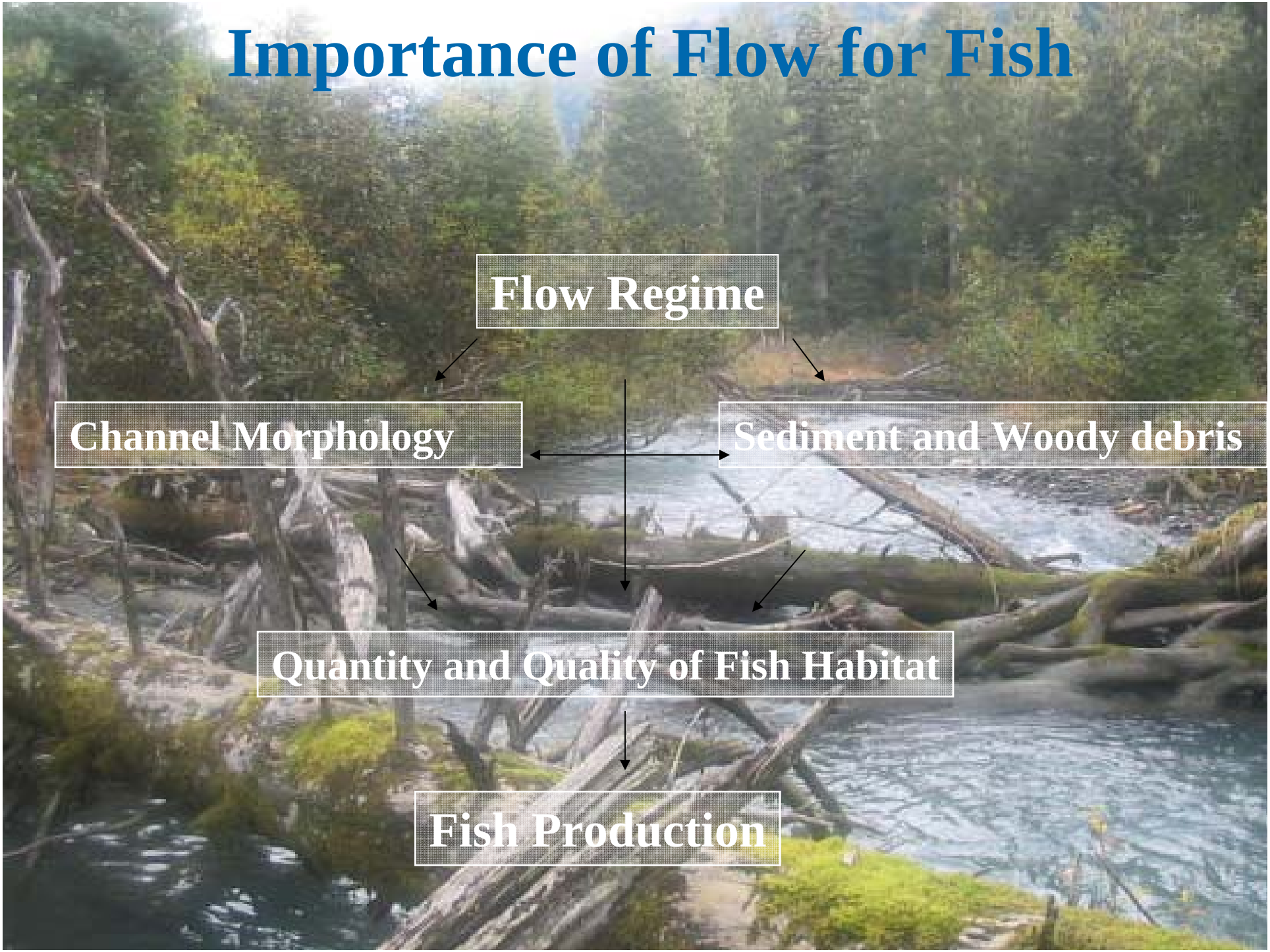
"…manage, protect, maintain, improve, and extend the fish, game and aquatic plant resources of the state in the interest of the economy and general well-being of the state, consistent with the sustained yield principle" (AS 16.05.020).

<u>Sustained Yield</u> – an average annual yield that results from a level of salmon escapement that can be maintained on a continuing basis (5 AAC 39.222)

ADF&G GOALS

- Optimize economic benefits from fish and wildlife resources.
- Optimize public participation in fish and wildlife pursuits.
- Increase public knowledge and confidence that wild populations of fish and wildlife are responsibly managed.

Importance of Flow for Fish



ADF&G Tools for Instream Flow/Water Levels

- Fish Habitat Permits (AS 16.05.841 & .871)
- Special Use Permits (5 AAC 95)
- Fish Hatchery Permits (AS 16.10.400 & 5 AAC 40.110 - .240)
- Recommendations for Federal, State & Local Permit Conditions
- File for Reservations of Water

ADF&G Prioritization Process for filing Reservations of Water

- Importance to fishery resources
- Likelihood of competing out-of-stream uses
- Availability of existing flow/water level data
- Whether other mechanisms would provide better or more cost effective protection

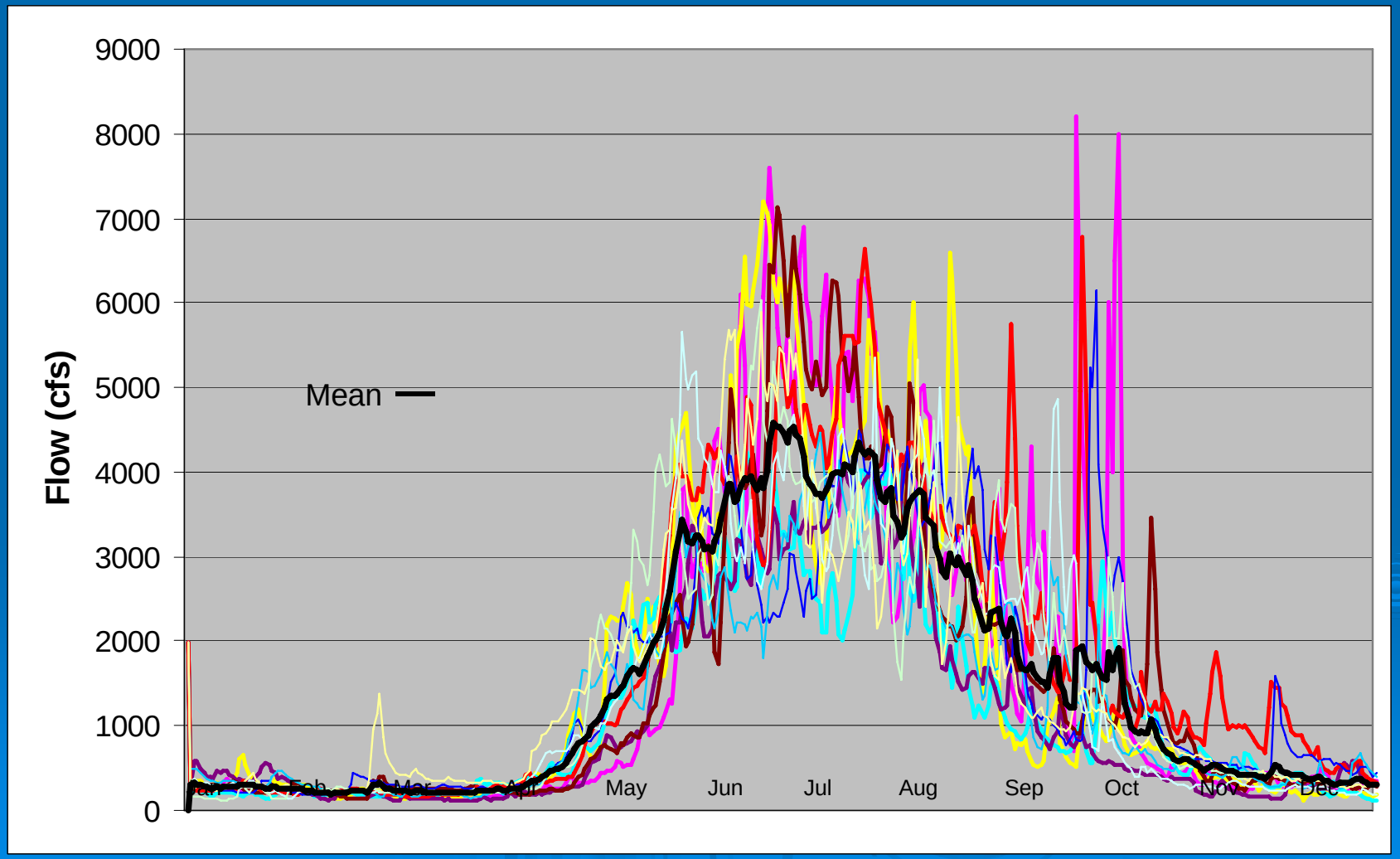
Estimation of Instream Flows to Sustain Fish

- Application filed using scientific based methods calibrated to site-specific biological and hydrologic conditions
- Objective to recommend seasonal flow regimes that mimic natural conditions to which fish have adapted

Key Components of the Natural Flow Regime

(colors represent different years)

Magnitude **Frequency** **Duration** **Timing** **Rate of change**



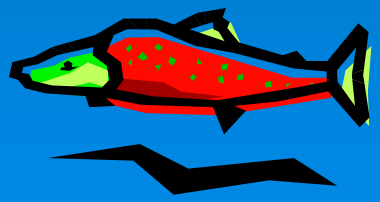
Fish Species Information

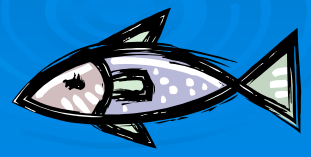
(Presence/absence, life phase, distribution, timing)

Example Fish Periodicity Table

Coho Salmon	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Smolt Passage				XXXX	XXXX	XX						
Adult Passage							XXXX	XXXX	XXXX	XXXX		
Spawning								XXXX	XXXX	XXXX	X	
Incubation	XXXX	XXXX	XXXX	XXXX				XXXX	XXXX	XXXX	XXXX	XXXX
Rearing	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX

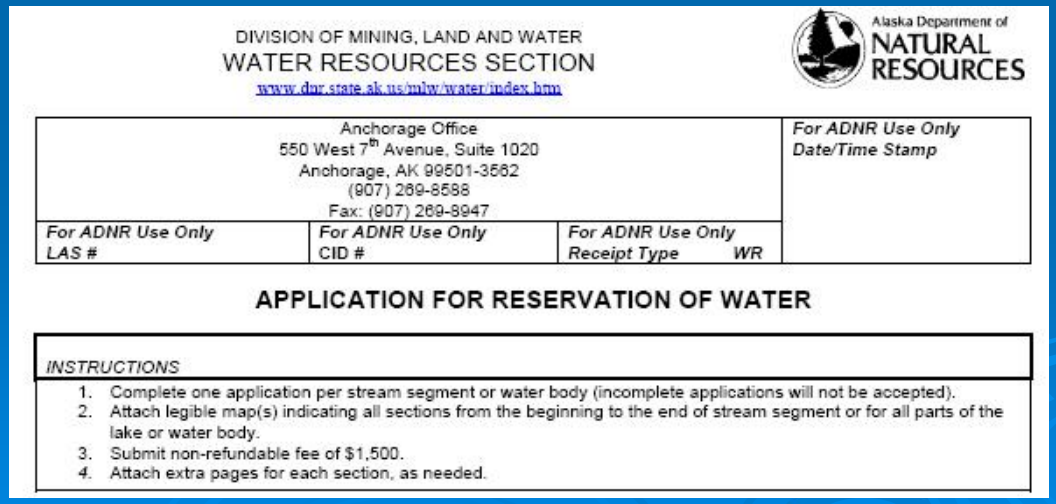
Pink Salmon												
Smolt Passage				XXXX	XXXX	X						
Adult Passage							XX	XXXX	XXXX			
Spawning							X	XXXX	XXXX			
Incubation	XXXX	XXXX	XXXX	XXXX			X	XXXX	XXXX	XXXX	XXXX	XXXX
Rearing												





Application Submittal

- Application is submitted with supporting information to DNR for adjudication.
- Application receives a priority date when received by DNR.



DIVISION OF MINING, LAND AND WATER
WATER RESOURCES SECTION
www.dnr.state.ak.us/mlw/water/index.htm

Alaska Department of NATURAL RESOURCES

Anchorage Office 550 West 7th Avenue, Suite 1020 Anchorage, AK 99501-3562 (907) 269-8588 Fax: (907) 269-8947			*For ADNR Use Only* *Date/Time Stamp*
For ADNR Use Only *LAS #*	*For ADNR Use Only* *CID #*	*For ADNR Use Only* *Receipt Type* *WR*	

APPLICATION FOR RESERVATION OF WATER

INSTRUCTIONS

1. Complete one application per stream segment or water body (incomplete applications will not be accepted).
2. Attach legible map(s) indicating all sections from the beginning to the end of stream segment or for all parts of the lake or water body.
3. Submit non-refundable fee of $1,500.
4. Attach extra pages for each section, as needed.

ADNR Adjudication of Reservation of Water Applications

- DNR has a backlog of approximately 360 reservation applications. One adjudicator working on case load.
- Factors considered for deciding adjudication priorities:
  - Order of applications filed
  - Existing or potential water use conflicts
  - Importance of resource at risk
  - Availability and adequacy of data

Public Notice

11 AAC 93.080

DNR must give Public Notice to:

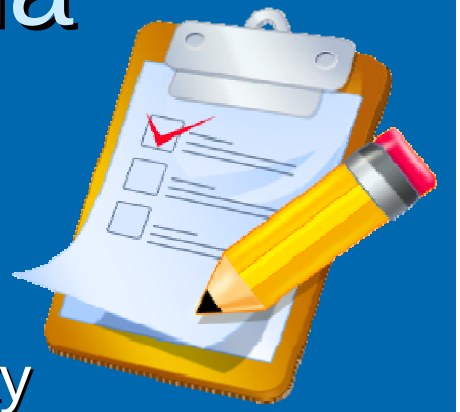
1. Newspaper/general circulation within the vicinity of the water source.
2. Alaska Online Public Notice System/public place near the water source.
3. Certified mail to prior appropriators of the same source.
4. Those formally requesting notice/land owners
5. Public comment period begins the 1st day newspapers post/public posting/receipt of the notice via certified mail.

Within 15 days of publication/service of notice, any person may file written objections with DNR (AS 46.15.133 (a))

Management Plans/Research

- Northern Southeast Area Plan (ADNR)
- Chilkat Bald Eagle Preserve Management Plan
- Hydrologic Reconnaissance of the Chilkat River Basin, SE Alaska
- Haines State Forest Management Plan (ADOF)
- Haines Borough Comprehensive Plan

Public Interest Criteria



In determining the public interest, DNR considers:

1. Benefit to the applicant
2. Effects to existing/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.

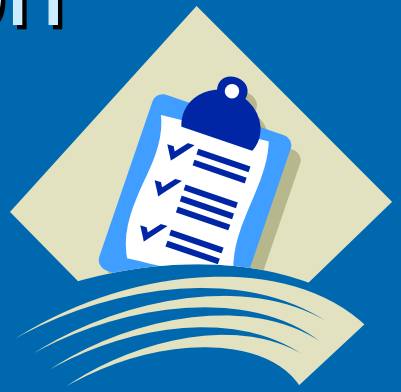
AS 46.15.080 (b)

Final Steps

- Findings of Fact & Conclusions of Law Report
- Certificate signed
  - Priority date: legally defensible
  - Applicant now holds the rights to the instream flows reserved under the certificate.

10-Year Review of Certificate of Reservation

11 AAC 93.147 (b)



A review determines:

- ✓ The purpose/need still applies?
- ✓ Effects of the reservation to prior appropriators/public interest?
- ✓ Has a new beneficial use has been proposed?
- ✓ Is new info available about the reservation?
- ✓ Is quantity/level of water reserved adequate?
- ✓ Do time periods still apply?
- ✓ Are additional research/data/analysis needed?

Public Benefits from Reservations of Water

- Provides legal process for protecting water uses that are dependent on instream flows and water levels that are in the best public interest.
- Provides clear description of flows/water levels needed for specified instream flow purpose(s).
- Provides cost savings to future developers from not having to perform instream flow studies if proposed use is compatible with development needs.
- Decision and rationale is formalized in a legal document which is retained over time (versus project specific decisions which may not be readily accessible or possibly even overlooked during project reviews).

For Further Information

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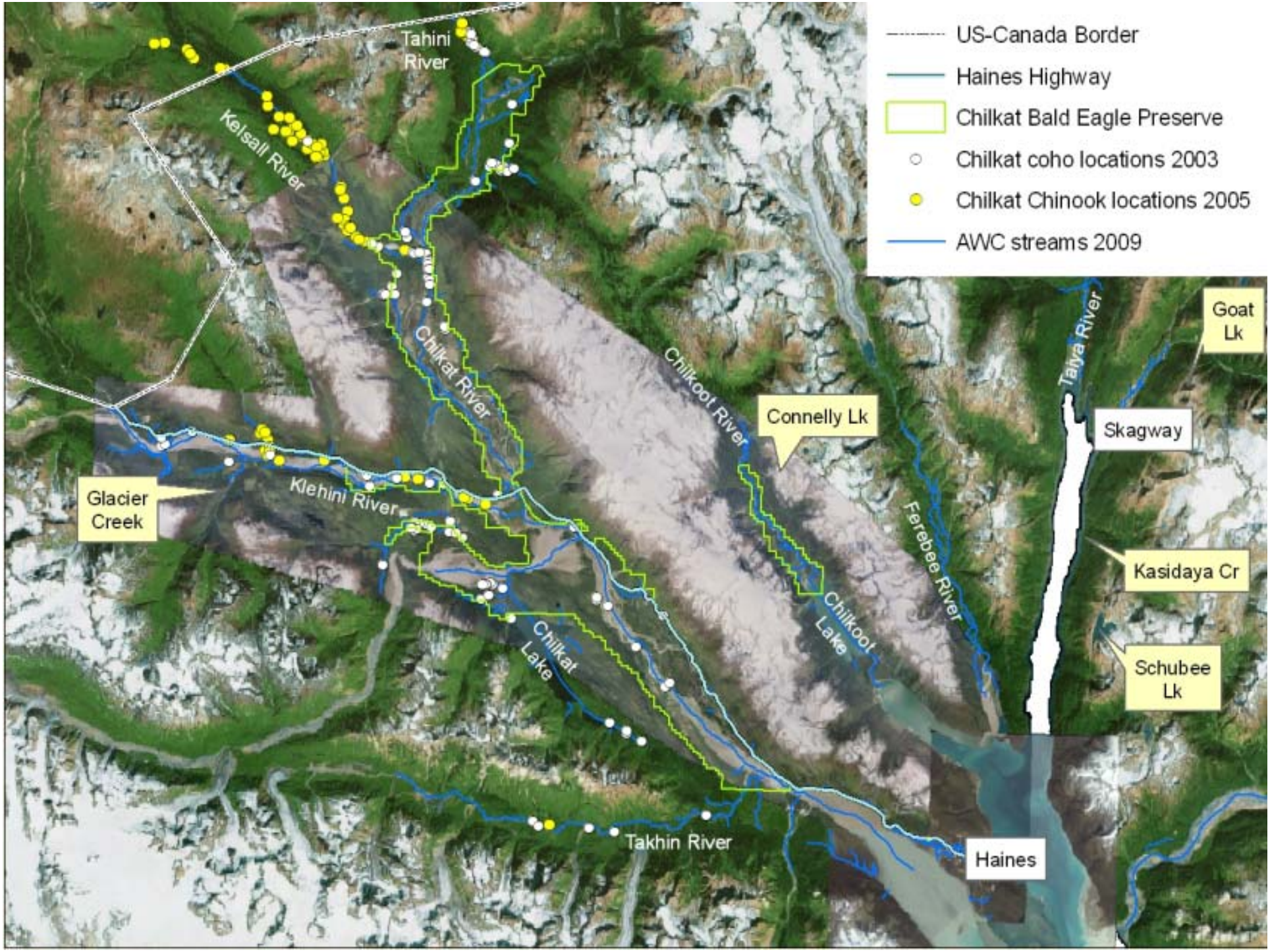
THANK YOU

Additional Slides


US-Canada Border
Haines Highway
Chilkat Bald Eagle Preserve
Chilkat coho locations 2003
Chilkat Chinook locations 2005
AWC streams 2009
Tahini River
Kelsall River
Chilkat River
Chilkoot River
Connelly Lk
Glacier Creek
Klehini River
Chilkat Lake
Chilkoot Lake
Ferebee River
Takhin River
Haines
Taiya River
Goat Lk
Skagway
Kasidaya Cr
Schubee Lk

Klehini River: Available Flows

	Mean Monthly Flows (cubic feet/sec)	Reservation Flows (cubic feet/sec)	Available Water after Reservation Flows **(cubic feet/sec)**	Available Water after Reservation Flows **(gal/day)**	Available Water after Reservation Flows **(acre feet / mon)**
January	285	235	50	32,336,350	2,975
February	242	215	27	17,461,629	1,499
March	222	190	32	20,695,264	1,967
April	390	250	140	90,541,780	8,330
May	1782	1300	482	311,722,414	29,635
June	3730	2840	890	575,587,030	52,955
July	4151	3350	801	518,028,327	49,248
August	3204	2540	664	429,426,728	40,825
September	1763	1200	563	364,107,301	33,499
October	1323	800	523	338,238,221	32,156
November	518	370	148	95,715,596	8,806
December	375	285	90	58,205,430	5,534

Flow Duration Analysis

- What is this analysis?
  - Shows the percentage of time that flows in a stream are likely to equal or exceed some specified value of interest.
    - Example: Requested flows for one month are 3350 cfs. The percent of time this flow is exceeded is 75%.

Klehini River Monthly Flow Duration Analyses (cfs)

% Exceedance	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	660	1380	868	1430	4750	7600	7040	6600	8200	9000	2160	1460
5	452	340	367	992	3990	6030	6110	4670	3350	3500	1025	663
10	387	304	310	707	3320	5445	5650	4340	2940	2450	886	593
15	355	279	276	581	2650	5035	5400	4210	2655	1860	738	529
20	340	260	259	516	2340	4585	5220	4010	2460	1550	680	462
25	330	253	246	438	2220	4340	4935	3920	2315	1390	617	432
30	320	245	228	398	2090	4175	4640	3800	2135	1290	558	399
35	310	241	216	374	2000	3950	4440	3650	1930	1200	530	382
40	300	235	210	343	1910	3850	4210	3470	1775	1150	500	366
45	290	232	207	324	1800	3740	4080	3320	1640	1100	470	350
50	278	230	202	312	1665	3505	3950	3220	1530	1015	445	337
55	270	225	199	286	1530	3350	3880	3110	1450	933	427	318
60	255	220	195	265	1400	3230	3780	2990	1350	869	409	305
65	243	215	190	256	1260	3100	3660	2840	1250	805	378	291
70	232	210	186	243	1060	2940	3530	2650	1175	754	360	280
75	224	200	182	234	987	2840	3350	2460	1070	700	320	269
80	215	192	174	218	887	2730	3250	2280	983	640	301	250
85	210	183	168	206	785	2615	3090	2110	910	560	280	230
90	200	175	159	195	714	2355	2850	1950	838	490	258	203
95	154	150	133	176	533	2215	2570	1600	729	414	203	180
100	120	120	109	127	310	1740	2020	887	510	311	150	120

Prior Appropriators

- Total of 21 Appropriators in the Klehini watershed
  - Klehini River = 0
  - Additionally, 17 out of 21 are prior appropriators in the Klehini watershed.

Scheduled Adjudications for Southeast Alaska

- Shelokum Creek
- Ketchikan Creek
- Chilkat River
- Stikine River