



Watershed Resource Action Plan

Chena River Watershed

Focal Resources / Conservation Targets

1	Alpine Tundra - Upper Chena
2	Boreal Forests - Upper Chena
3	Boreal Forests - Lower Chena
4	Tributaries - Upper Chena
5	Tributaries - Lower Chena
6	Sloughs and Wetlands - Upper Chena
7	Sloughs and Wetlands - Lower Chena
8	Mainstem River & Major Forks - Upper Chena
9	Mainstem River & Major Forks - Lower Chena
10	Confluence with Tanana
11	
12	

Project Information

Project Area Description

The Chena River is a tributary of the Tanana River and originates in a mountainous area about 90 miles east of the city of Fairbanks in interior Alaska. The river flows southwest from its headwaters to its confluence with the Tanana River in Fairbanks. The Chena River Watershed encompasses 2,115 square miles. The watershed is characterized by highlands, tapering to a broad plain near Fairbanks. The plain is a mosaic of wetlands with braided sloughs. Urban developments such as Fort Wainwright, the University of Alaska, North Pole, and several unincorporated suburbs are interspersed throughout the watershed. Fairbanks, Alaska's second largest city, lies at the northern edge of the broad Tanana River Valley on the banks of the Chena River.

Planning Team

Jewelz Barker, co-sponsor	Tanana Valley Watershed Association (TVWA)
Jimmy Fox, co-sponsor	U.S. Fish and Wildlife Service
Irene Holak	TVWA
Greg Low, Facilitator	Applied Conservation
Aaron Martin	U.S. Fish and Wildlife Service
Aditi Brase	Fairbanks Cooperative Weed Mgmt Area
Audra Brase	Alaska Department of Fish and Game
Bob Henszey	U.S. Fish and Wildlife Service
Chandra McGee	Alaska Department of Environmental Conservation
Christy Everett	TVWA
David Wigglesworth	U.S. Fish and Wildlife Service
Gale Vick	Tanana Chiefs Conference
Jackson Fox	City of Fairbanks
James Savereide	Alaska Department of Fish and Game
Jeff Falke	University of Alaska Fairbanks
Jeff Adams	U.S. Fish and Wildlife Service
Jessica Guritz	Fairbanks Soil & Water Conservation District
Laura Jacobs	Alaska Department of Fish and Game
Melissa Riordan	U.S. Army of Corp. of Engineers
Roger Harding	Alaska Department of Fish and Game
Anna Plager	Chena Riverfront Commission

Planning Process

The project team produced a Conservation Action Plan (CAP) following the internationally-recognized Nature Conservancy CAP planning model. The CAP methodology has been deployed successfully by hundreds of teams working to conserve species, ecosystems, landscapes, watersheds and seascapes across the globe. From a political boundary perspective, CAP has been applied by projects with a global, multi/national, country-based, state, province, municipality, village or community focus. CAP is a relatively simple, straightforward, and proven approach for planning, implementing, and measuring success for conservation actions. The process included three, 2.5-day CAP workshops with the planning team to determine focal conservation resources in the Chena River Watershed (focusing on ecosystem-level resources), assess the current and projected future health of the resources, identify critical threats, and develop conservation strategies to enhance health and abate threats. The workshops were held in November, 2014, February 2015 and April 2015. The CAP was facilitated and assisted by Greg Low of Applied Conservation.

Chena River Watershed

Focal Resources/Conservation Targets	
1	Alpine Tundra - Upper Chena
2	Boreal Forests - Upper Chena
3	Boreal Forests - Lower Chena
4	Tributaries - Upper Chena
5	Tributaries - Lower Chena
6	Sloughs and Wetlands - Upper Chena
7	Sloughs and Wetlands - Lower Chena
8	Mainstem River & Major Forks - Upper Chena
9	Mainstem River & Major Forks - Lower Chena
10	Confluence with Tanana
11	
12	

Chena River Watershed

Focal Targets, Descriptions and Nested Targets	
1	Alpine Tundra - Upper Chena
Type	Terrestrial - Alpine Tundra
Description	Alpine tundra climate is cold, windy, and icy/snowy, and characterized by rocky, rough to gentle terrain. Alpine tundra has a low-growing season temperatures with very short frost-free period. Alpine biome is generally treeless, and dominated by scrubfields/ shrubs (e.g. willows, birch), herbs, bryophytes, and lichens. Few stunted trees are at the lower elevations (e.g. black spruce, aspen). Dwarf scrubs and herb meadows dominate mid-elevation, while alpinas grasses and herbfields reside in the higher elevations. At the highest parts of the alpine zones are few vascular plants (i.e. cushion- or mat-formers), mosses, liverworts, and amble lichen populations. Wildlife species diversity (e.g. caribou, hoary marmot, and peregrine falcon) and density are low in the alpine tundra because of limiting factors of exposure to wind, solar radiation, soil temperature, and the distribution of snow and its meltwater. (Ecosystems of British Columbia 1991)
Nested	Caribou
Nested	Moose
Nested	Rock Ptarmigan
2	Boreal Forests - Upper Chena
Type	Terrestrial - Conifer Forest
Description	Boreal forests, also known as taiga, form an extensive vegetation zone between the coastal forests to the northern limit of forests, extending in a broad circumpolar belt across the northern hemisphere. They are the most extensive vegetation formation in North America. Forests predominate, but there are also extensive mosaics of shrubs and herbaceous plant communities. The forests on well drained uplands, flood plains, and stream terraces consists of pure and mixed stands of white spruce, paper birch, quaking aspen, and balsam poplar. On lowlands, north-facing hillslopes, toeslopes, and stream terraces with permafrost, stunted forests of black spruce and occasional paper birch and tamarack occur. Where fire has burned the forest, shrubs and herbaceous plants occur before the forest eventually return. (White et al. 1991; U.S. Department of Agriculture et al. 1992; Johnson et al. 1995; Wikipdeia 2015)
Nested	Marten
Nested	Moose
Nested	Little Brown Bat?
3	Boreal Forests - Lower Chena
Nested	Marten
Nested	Moose
Nested	Little Brown Bat
4	Tributaries - Upper Chena

Type	Freswater - River/Stream
Description	Tributaries are defined as all perennial streams and their adjacent riparian forest, not including the mainstem and major forks (defined separately). Tributary streams in the Chena River basin originate from hill slopes, where they are relatively high gradient, with coarse substrates and forced pool-riffle sequences. Often when tributaries flow onto the floodplain of the mainstem or major forks they transition to having lower gradients, slower velocity, with fine substrates and pool or run habitats. Many tributaries meet sloughs or off-channel habitats prior to meeting the mainstem or major fork. The surrounding riparian area is a complex mosaic of black and white spruce, with groves of aspen and birch trees mixed with small meadows. Common shrubs and ground cover plants include willow, alder, mosses, lichens, and grasses.
Nested	Rearing Juvenile Salmon/Fish Assemblage
Nested	Rearing Juvenile Grayling/Fish Assemblage
Nested	Moose
Nested	Olive-Sided Flycatcher
5	Tributaries - Lower Chena
Nested	Rearing Juvenile Salmon/Fish Assemblage
Nested	Rearing Juvenile Grayling/Fish Assemblage
Nested	Moose
Nested	Olive-Sided Flycatcher
6	Sloughs and Wetlands - Upper Chena
Type	Freshwater Wetlands
Description	Wetlands are the transitional areas between terrestrial and aquatic environments where the water table is usually at or near the land surface. These areas are saturated by water at a frequency and duration sufficient to support, and that under normal conditions do support, a prevalence of vegetation, typically adapted for life in saturated soil conditions. Wetlands are also commonly referred to as swamps, marshes, and bogs. (U.S. Army Corps of Engineers n.d.; Environmental Protection Agency & U.S. Army Corps of Engineers 2014). Sloughs are sluggish channels of water connected to the main stem or side channel of a stream that flow slowly through low, swampy ground. Most sloughs are old streambed channels that contain water most of the year and only carry stream current under high water conditions. However, some sloughs may only have a season connection to the main stem or side channel. (Alaska Legal Resource Center n.d.)
Nested	Rearing Juvenile Fish Assemblage (e.g. Salmon)
Nested	Rusty Blackbird
Nested	Olive-Sided Flycatcher
Nested	Moose
7	Sloughs and Wetlands - Lower Chena
Nested	Rearing Juvenile Fish Assemblage (e.g. Salmon)
Nested	Rusty Blackbird
Nested	Olive-Sided Flycatcher
Nested	Moose

8	Mainstem River & Major Forks - Upper Chena
Type	Freshwater - River/Stream
Description	The mainstem will define the Chena River to include the major forks (North, South, Middle, West, and Little Chena River). Mainstem of the Chena River are characterized as clear water runoff streams fed by the combined input of surface and subsurface water from the surrounding valley. They are permanently flowing streams with established streambeds (channels) and banks. The river forks are 4th and 5th order streams with relatively high gradient, small gravel bars, and a series of riffle-pool sequences; the mainstem is a meandering river with moderate gradient, prominent gravel bars, riffle-pool sequences, and numerous off-channel habitats. The surrounding riparian area is a complex mosaic of black and white spruce, with groves of aspen and birch trees mixed with small meadows. Common shrubs and ground cover plants include willow, alder, mosses, lichens, and grasses. (Note: Specific extent of major forks: North Fork to Monument Creek, South Fork to Beaver Creek, Middle Fork to Munson Creek, West Fork to Frozenfoot Creek, and Little Chena River to Anaconda Creek. The stream network and adjacent riparian forest upstream of these locations would fall under Chena River Tributaries.)
Nested	Adult and Juvenile Salmon
Nested	Adult and Juvenile Arctic Grayling
Nested	Moose
Nested	Osprey
9	Mainstem River & Major Forks - Lower Chena
Nested	Adult and Juvenile Salmon
Nested	Adult and Juvenile Arctic Grayling
Nested	Moose
Nested	Osprey
10	Confluence with Tanana
Description	Confluence is the junction of two or more water bodies, described by complex hydrodynamic conditions that feature: 1) stagnant flow upstream of the junction; 2) a shear layer between the merging flows; 3) converging cells on each side of the shear layer; and 4) divergent flow downstream of the junction (Rhoads & Kenworthy 1995). The main influences on these areas are the: 1) junction angle; 2) ratio of discharges between the channels (Best 1987; Boyer et al. 2006); and 3) form and composition of the channel beds (Constantinescu et al. 2011) i.e. stream mouth. Confluences provide greater habitat complexity (Benda et al. 2004) that are important for western Washington sculpin, juvenile bull, rainbow, and cutthroat trout, and Chinook, sockeye, coho, and pink salmon (Kiffney et al. 2006). Fish species richness and abundance are found to be greater at confluences than at other sites in streams of the mid-Atlantic Highlands of the eastern U.S. (Angermeier & Hitt 2008). Migrating fish like burbot use the confluence, as documentation shows at the Chena-Tanana confluence in the early 1990s (Evenson 1993).
Nested	Burbot
Nested	Bald Eagle
Nested	Moose
11	

Summary of Health

Yes No

#	Conservation Target	Current Rating	Projected Future Rating With No Action	Projected Future Rating With Strategies
1	Alpine Tundra - Upper Chena	89	79	
2	Boreal Forests - Upper Chena	80	57	
3	Boreal Forests - Lower Chena	53	37	
4	Tributaries - Upper Chena	80	54	
5	Tributaries - Lower Chena	51	34	
6	Sloughs and Wetlands - Upper Chena	74	51	
7	Sloughs and Wetlands - Lower Chena	40	31	
8	Mainstem River & Major Forks - Upper Chena	82	73	
9	Mainstem River & Major Forks - Lower Chena	60	43	
10	Confluence with Tanana	80	67	

Strategies

[Instructions](#)

Objectives

Beginning 2020, assure no net loss of currently native vegetated riparian area in the Lower Chena River mainstem and tributaries and sloughs, and by 2025 assure that 50% of the shoreline along all reaches has "good" native riparian vegetation (see interagency report).

Restore important fish habitat by reducing hardened banks in the lower Chena sloughs, tributaries and mainstem. By 2025, assure that 50% of the banks and substrate within each reach provide "good" diversity and abundance of suitable substrates/shelter in most rearing habitat for fish -- through large woody debris, native vegetated banks or bioengineered banks. Assure no additional hardening on public land and private land as of 2020.

By 2025, improve connectivity for fish passage in the Chena tributaries and sloughs: (1) all existing culverts will be "green" (based on ADFG inventory of barriers); (2) no new barriers will be erected after 2020; (3) remove other targeted barriers to reconnect passage

By 2020, the Lower Chena river, tributaries and sloughs will meet DEC water quality standards* (* restoration plan in place - e.g., Noyes Slough). Key sources are roads, development, stormwater.

By 2025, future roads and residential development in the Upper and Lower Chena watershed boreal forests will minimize forest fragmentation and habitat loss, avoid adverse downstream impacts on water quality and flows, and avoid key fire prone areas (e.g. black spruce).

By 2020, assure no net loss of sloughs and wetlands in the upper and lower Chena - primarily occurring from filling and residential/commercial development.

By 2020, implement a program to control invasive species (terrestrial and aquatic) in the Chena River Watershed: (1) eradicate high priority invaders e.g. - elodea; (2) contain any established invasives to their existing areas - e.g. bird vetch; and (3) prevent the establishment of any new harmful invasives.

By 2025, the Lower Chena tributaries and sloughs will mostly mimic natural water levels, flows and fluctuations, thus likely to support juvenile salmon and grayling in most habitats.

Strategies

[Instructions](#)

Objective 1

Beginning 2020, assure no net loss of currently native vegetated riparian area in the Lower Chena River mainstem and tributaries and sloughs, and by 2025 assure that 50% of the shoreline along all reaches has "good" native riparian vegetation (see interagency report).

Targets/Key Attributes Benefited	Current Rating	Projected Future Rating With No Action	Projected Future Rating If Objective Achieved
Tributaries - Lower Chena Extent of area	Fair	Fair -	Good -
Mainstem River & Major Forks - Lower Chena Extent of area	Fair	Fair -	Good -
Sloughs and Wetlands - Lower Chena Extent of area	Fair	Fair	Good -
Mainstem River & Major Forks - Lower Chena Characteristic native communities	Good -	Fair	Good -
Sloughs and Wetlands - Lower Chena Characteristic native communities	Fair	Fair	Good -
Tributaries - Lower Chena Characteristic native communities	Good	Good -	Good -
Tributaries - Lower Chena Water quality	Fair	Fair -	Fair
Sloughs and Wetlands - Upper Chena Water quality	Good	Good -	Good -
Mainstem River & Major Forks - Lower Chena Water quality	Fair	Fair -	Fair

Strategic Actions

Enter Key, High-Level Strategies Needed to Achieve Objective

Get critical data and maps on vegetated riparian areas; determine minimum buffer width and vegetation composition needed (consider the nested targets). See interagency riparian management zone recommendations.

Draft zoning overlay ordinance that will prevent net loss of vegetation while allowing reasonable uses by landowners. Draw upon existing waterways setback and waterways protection zoning.

Feasibility	Cost Estimate
Very High	
Very High	

Organize and mobilize support of key constituencies (e.g., Riverfront Commission, property owners, developers, planning commission, zoning commission) to support amendment of Fairbanks North Star Borough ordinance	Medium	
Education - "Habitat Happy". Show landowners and other key constituencies the benefits of riparian vegetation, and that funding is available for restoration.	Very High	
Secure support of planning director, mayor and planning commission chairman	Medium	
Secure adoption of ordinance by borough assembly	Low	
Prioritize the potential restoration projects within all reaches based on habitat value, current degradation, and opportunity. Develop a list of "shovel ready projects" -- list the "best bang for buck" projects and an action plan with proper design for each. Remember the fish in the design.	Very High	
Get \$\$\$ - e.g., NFWF, AKSSF, USFS, others; compensatory mitigation as funding source and mitigation banking opportunities	High	
Get the job done: Contractors hired by private landowners or agency owners.	High	\$ 50,000
Overall Feasibility & Overall Cost	Medium	\$ 50,000

Return on Investment	Very High
-----------------------------	------------------

Objective 2

Restore important fish habitat by reducing hardened banks in the lower Chena sloughs, tributaries and mainstem. By 2025, assure that 50% of the banks and substrate within each reach provide "good" diversity and abundance of suitable substrates/shelter in most rearing habitat for fish -- through large woody debris, native vegetated banks or bioengineered banks. Assure no additional hardening on public land and private land as of 2020.

Targets/Key Attributes Benefited	Current Rating	Projected Future Rating With No Action	Projected Future Rating If Objective Achieved
Tributaries - Lower Chena Substrate and banks	Fair	Fair	Good
Mainstem River & Major Forks - Lower Chena Substrate and banks (in channel habitat?)	Good -	Fair	Good -

Sloughs and Wetlands - Lower Chena|Substrate and banks

Fair

Fair

Good

Strategic Actions

Enter Key, High-Level Strategies Needed to Achieve Objective

Feasibility

Cost Estimate

Prioritize the potential projects within all reaches based on habitat value, current degradation, and opportunity. Develop a list of "shovel ready projects" -- list the "best bang for buck" projects and an action plan with proper design for each. Remember the fish in designing for cover.

Very High

Get \$\$\$ - ADFG, USFWS, landowners (e.g., DOD, NFWF, AKSSF, USFWS (salmon hotspot); compensatory mitigation as funding source

High

Research current management plan for dam operation, and work with ACOE to allow more woody debris below Moose Creek dam.

High

Secure borough ordinance that prohibits future hardening.

Low

Education on the Power of Roots - show landowners benefits of intact vegetation and education to show boaters and other key constituencies the benefits of woody debris.

High

Build constituency to support both DOD and borough action.

Medium

Build "Fort Fish."

Medium

Get the job done: Contractors hired by landowners (or DOD).

Very High

\$ 50,000

Overall Feasibility & Overall Cost

Medium

\$ 50,000

Return on Investment

High

Objective 3

By 2025, improve connectivity for fish passage in the Chena tributaries and sloughs: (1) all existing culverts will be "green" (based on ADFG inventory of barriers); (2) no new barriers will be erected after 2020; (3) remove other targeted barriers to reconnect passage

Targets/Key Attributes Benefited	Current Rating	Projected Future Rating With No Action	Projected Future Rating If Objective Achieved
Tributaries - Lower Chena Connectivity to mainstem river and within tributaries	Fair	Fair -	Good -
Sloughs and Wetlands - Lower Chena Connectivity to mainstem river and tributaries	Fair	Fair -	Good -
Tributaries - Upper Chena Connectivity to tributaries and within mainstem	Good	Fair	Good
Sloughs and Wetlands - Upper Chena Connectivity to mainstem river and tributaries	Fair	Fair -	Good -
Tributaries - Lower Chena Hydrologic regime	Fair	Fair -	Fair
Sloughs and Wetlands - Upper Chena Hydrologic regime	Good	Good -	Good
Sloughs and Wetlands - Lower Chena Hydrologic regime	Fair	Fair -	Fair

Strategic Actions <i>Enter Key, High-Level Strategies Needed to Achieve Objective</i>	Feasibility	Cost Estimate
Develop a list of "shovel ready projects" -- list the "best bang for buck" barriers and an action plan with proper design for each barrier to DOT	Very High	
Get \$\$\$ - matching funds as incentive for DOT; explore Exxon-Valdez settlement, NFWF, AKSSF, USFWS (salmon hotspot); compensatory mitigation as funding source	High	
Get borough to pass ordinance that requires fish passage for all new culverts (see Mat-Su model)	Low	
Build constituency to support both DOT and borough action (see Mat-Su and others)	Medium	
Identify other significant barriers that have yet been catalogued, and add them to the shovel-ready list	Very High	
Get the job done	Very High	
Maintain the green status	High	\$ 50,000
Overall Feasibility & Overall Cost	Medium	\$ 50,000

Return on Investment	Very High
-----------------------------	------------------

Objective 4

By 2020, the Lower Chena river, tributaries and sloughs will meet DEC water quality standards* (* restoration plan in place - e.g., Noyes Slough). Key sources are roads, development, stormwater.

Targets/Key Attributes Benefited	Current Rating	Projected Future Rating With No Action	Projected Future Rating If Objective Achieved
Tributaries - Lower Chena Water quality	Fair	Fair -	Good -
Mainstem River & Major Forks - Lower Chena Water quality	Fair	Fair -	Good -
Sloughs and Wetlands - Lower Chena Water quality	Fair	Fair	Good -

Strategic Actions <i>Enter Key, High-Level Strategies Needed to Achieve Objective</i>	Feasibility	Cost Estimate
Strategies for riparian vegetation will serve important component of water quality improvement		
Multiagency Green Infrastructure Group (GIG) addresses impervious surfaces associated with existing development, which also helps minimize amount going into storm drains		
Major municipal permitting requirements also address stormwater runoff, to a substantial degree	Medium	
Assess loading of runoff (sediment and other pollutants) from state highways, borough and city roads, and private lanes. What are the major sources?	High	
Explore with DOT and road agencies the use of vacuum sweepers (not pushers and brooms), catch basins, sediment filters and other options. Find out what they measures will apply, what testing is needed, what is required to do it at sufficient scale, and what we can do to help make it happen. (SWAC)	Medium	
Improve existing education and training regarding Alaska Stormwater Pollution Prevention Plan: landowners, businesses, construction companies, road commissioners, municipal employees -- the BMPs are the bible. (CESCL and AGC)	High	
Develop and put into place an ongoing assessment/monitoring of water quality condition in our target water bodies.	Medium	\$ 50,000
Overall Feasibility & Overall Cost	Medium	\$ 50,000

Return on Investment

High

Objective 5

By 2025, future roads and residential development in the Upper and Lower Chena watershed boreal forests will minimize forest fragmentation and habitat loss, avoid adverse downstream impacts on water quality and flows, and avoid key fire prone areas (e.g. black spruce).

Targets/Key Attributes Benefited	Current Rating	Projected Future Rating With No Action	Projected Future Rating If Objective Achieved
Boreal Forests - Upper Chena Habitat connectivity	Good	Good -	Good -
Boreal Forests - Lower Chena Habitat connectivity	Fair	Fair -	Fair -
Boreal Forests - Lower Chena Hydrologic regime	Fair	Fair -	Fair
Boreal Forests - Lower Chena Extent of area	Fair	Fair -	Fair
Tributaries - Lower Chena Water quality	Fair	Fair -	Fair

Strategic Actions	Feasibility	Cost Estimate
<i>Enter Key, High-Level Strategies Needed to Achieve Objective</i>		
Enter strategic action here		\$ 50,000
Overall Feasibility & Overall Cost		\$ 50,000

Return on Investment	-
-----------------------------	---

Objective 6

By 2020, assure no net loss of sloughs and wetlands in the upper and lower Chena - primarily occurring from filling and residential/commerical development.

Targets/Key Attributes Benefited	Current Rating	Projected Future Rating With No Action	Projected Future Rating If Objective Achieved
Sloughs and Wetlands - Upper Chena Extent of area	Good	Fair	Good
Sloughs and Wetlands - Lower Chena Extent of area	Fair	Fair	Fair

Strategic Actions <i>Enter Key, High-Level Strategies Needed to Achieve Objective</i>	Feasibility	Cost Estimate
		\$ 50,000
Overall Feasibility & Overall Cost		\$ 50,000

Return on Investment	-
-----------------------------	---

Objective 7
 By 2020, implement a program to control invasive species (terrestrial and aquatic) in the Chena River Watershed: (1) eradicate high priority invaders e.g. - elodea; (2) contain any established invasives to their existing areas - e.g. bird vetch; and (3) prevent the establishment of any new harmful invasives.

Targets/Key Attributes Benefited	Current Rating	Projected Future Rating With No Action	Projected Future Rating If Objective Achieved
Boreal Forests - Upper Chena Vegetation composition & structure - mosaic	Good	Good -	Good
Boreal Forests - Lower Chena Vegetation composition & structure - mosaic	Good	Good -	Good
Tributaries - Upper Chena Species composition	Good	Good -	Good
Tributaries - Lower Chena Species composition	Good	Good -	Good
Sloughs and Wetlands - Upper Chena Species composition	Good	Good -	Good
Sloughs and Wetlands - Lower Chena Species composition	Fair	Fair -	Fair
Mainstem River & Major Forks - Upper Chena Species composition	Good	Good -	Good

Mainstem River & Major Forks - Lower Chena Species composition	Good -	Fair	Good -
Confluence with Tanana Species composition	Good	Good -	Good

Strategic Actions <i>Enter Key, High-Level Strategies Needed to Achieve Objective</i>	Feasibility	Cost Estimate
		\$ 50,000
Overall Feasibility & Overall Cost		\$ 50,000

Return on Investment	-
----------------------	---

Objective 8

By 2025, the Lower Chena tributaries and sloughs will mostly mimic natural water levels, flows and fluctuations, thus likely to support juvenile salmon and grayling in most habitats.

Targets/Key Attributes Benefited	Current Rating	Projected Future Rating With No Action	Projected Future Rating If Objective Achieved
Sloughs and Wetlands - Lower Chena Hydrologic regime	Fair	Fair -	Good -
Tributaries - Lower Chena Hydrologic regime	Fair	Fair -	Good -

Strategic Actions <i>Enter Key, High-Level Strategies Needed to Achieve Objective</i>	Feasibility	Cost Estimate
		\$ 50,000
Overall Feasibility & Overall Cost		\$ 50,000

Return on Investment

Explanation	ROI	Overall
Objective 3 By 2025, improve connectivity for fish passage in the Chena tributaries and sloughs: (1) all existing culverts will be "green" (based on ADFG inventory of barriers); (2) no new barriers will be erected after 2020; (3) remove other targeted barriers to reconnect passage	100	Very High
Objective 1 Beginning 2020, assure no net loss of currently native vegetated riparian area in the Lower Chena River mainstem and tributaries and sloughs, and by 2025 assure that 50% of the shoreline along all reaches has "good" native riparian vegetation (see interagency report).	66	Very High
Objective 4 By 2020, the Lower Chena river, tributaries and sloughs will meet DEC water quality standards* (* restoration plan in place - e.g., Noyes Slough). Key sources are roads, development, stormwater.	47	High
Objective 2 Restore important fish habitat by reducing hardened banks in the lower Chena sloughs, tributaries and mainstem. By 2025, assure that 50% of the banks and substrate within each reach provide "good" diversity and abundance of suitable substrates/shelter in most rearing habitat for fish -- through large woody debris, native vegetated banks or bioengineered banks. Assure no additional hardening on public land and private land as of 2020.	44	High

Most Needing Attention

Yes No

#	Conservation Target	Current Rating	Projected Future Rating With No Action	Projected Future Rating With Strategies	Strategic Action Required
5	Tributaries - Lower Chena	51	34	66	Abate High threats; improve any currently Poor or Fair- attributes
3	Boreal Forests - Lower Chena	53	37	47	Abate High threats; improve any currently Poor or Fair- attributes
7	Sloughs and Wetlands - Lower Chena	40	31	60	Abate High threats; improve any currently Poor or Fair- attributes
4	Tributaries - Upper Chena	80	54	74	Abate any High threats
6	Sloughs and Wetlands - Upper Chena	74	51	69	Abate any High threats
2	Boreal Forests - Upper Chena	80	57	60	Abate any High threats
9	Mainstem River & Major Forks - Lower Chena	60	43	66	Abate any High threats

Summary of Health

Yes No

#	Conservation Target	Current Rating	Projected Future Rating With No Action	Projected Future Rating With Strategies
1	Alpine Tundra - Upper Chena	89	79	79
2	Boreal Forests - Upper Chena	80	57	60
3	Boreal Forests - Lower Chena	53	37	47
4	Tributaries - Upper Chena	80	54	74
5	Tributaries - Lower Chena	51	34	66
6	Sloughs and Wetlands - Upper Chena	74	51	69
7	Sloughs and Wetlands - Lower Chena	40	31	60
8	Mainstem River & Major Forks - Upper Chena	82	73	76
9	Mainstem River & Major Forks - Lower Chena	60	43	66
10	Confluence with Tanana	80	67	70

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
1	Alpine Tundra - Upper Chena	Landscape Context	Fire regime	Frequency, size, type of fires, severity	Highly altered regime	Moderately altered regime	Mostly natural regime	Mother Nature	Good	Good	
1	Alpine Tundra - Upper Chena	Landscape Context	Habitat connectivity	Movement of species	Most species are isolated	Some species are isolated	Most species are mostly able to move freely among most habitats	Mother Nature	Very Good	Very Good	
1	Alpine Tundra - Upper Chena	Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Very Good	Very Good	
1	Alpine Tundra - Upper Chena	Condition	Characteristic native community	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accom-modate most nested targets in abundance	Some habitats have the characteristic native communities to accom-modate most nested targets in abundance	Most habitats have the characteristic native communities to accom-modate most nested targets in abundance	Almost all habitats have the characteristic native communities to accom-modate almost all nested targets in abundance	Good	Fair	
1	Alpine Tundra - Upper Chena	Condition	Vegetation composition & structure - mosaic	Diversity of species and age classes	Low diversity of species and age classes	Moderate diversity of species and age classes	Good diversity of species and age classes	High diversity of species and age class	Good	Good	

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
1	Alpine Tundra - Upper Chena	Size	Extent of area	Extent, patch size, and/or distribution	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Very Good	Good	
2	Boreal Forests - Upper Chena	Landscape Context	Fire regime	Frequency, size, type of fires, severity	Highly altered regime	Moderately altered regime	Mostly natural regime	Mother Nature	Good	Fair	
2	Boreal Forests - Upper Chena	Landscape Context	Habitat connectivity	Movement of species	Most species are isolated	Some species are isolated	Most species are mostly able to move freely among most habitats	Mother Nature	Good	Good -	Good -
2	Boreal Forests - Upper Chena	Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Good	Good -	
2	Boreal Forests - Upper Chena	Condition	Characteristic native community	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate most nested targets in abundance	Good	Good -	

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
2	Boreal Forests - Upper Chena	Condition	Vegetation composition & structure - mosaic	Diversity of species and age classes	Low diversity of species and age classes	Moderate diversity of species and age classes	Good diversity of species and age classes	High diversity of species and age class	Good	Good -	Good
2	Boreal Forests - Upper Chena	Size	Extent of area	Extent, patch size, and/or distribution	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Good	Good -	
3	Boreal Forests - Lower Chena	Landscape Context	Fire regime	Frequency, size, type of fires, severity	Highly altered regime	Moderately altered regime	Mostly natural regime	Mother Nature	Fair	Fair	
3	Boreal Forests - Lower Chena	Landscape Context	Habitat connectivity	Movement of species	Most species are isolated	Some species are isolated	Most species are mostly able to move freely among most habitats	Mother Nature	Fair	Fair -	Fair -
3	Boreal Forests - Lower Chena	Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Fair	Fair -	Fair

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
3	Boreal Forests - Lower Chena	Condition	Characteristic native community	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Good	Good -	
3	Boreal Forests - Lower Chena	Condition	Vegetation composition & structure - mosaic	Diversity of species and age classes	Low diversity of species and age classes	Moderate diversity of species and age classes	Good diversity of species and age classes	High diversity of species and age class	Good	Good -	Good
3	Boreal Forests - Lower Chena	Size	Extent of area	Extent, patch size, distribution	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Fair	Fair -	Fair
4	Tributaries - Upper Chena	Landscape Context	Connectivity to tributaries and within mainstem	Number, extent, & type of barriers	Many widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Some widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Few widespread or complete manmade or natural blockages, Where culverts exist % of green barriers based on ADFG fish passage inventory	No widespread or complete manmade or natural blockages,	Good	Good -	Good

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
4	Tributaries - Upper Chena	Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Good	Good -	Good
4	Tributaries - Upper Chena	Landscape Context	Substrate and banks	Amount, type, size, availability of, & distribution	Low diversity of and abundance of suitable substrates in most habitats	Moderate diversity of abundance of suitable substrates/material in most habitats	Diversity and abundance of suitable substrates/material in most habitat for aquatic species	High diversity and abundance of suitable substrates/material in most habitat for aquatic species	Good	Fair	Good
4	Tributaries - Upper Chena	Condition	Characteristic native communities	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Good	Good -	

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
4	Tributaries - Upper Chena	Condition	Species composition	Presence/absence, extent of invasive species	High abundance of invasive/non-native species in most habitats	Moderate abundance of invasive/non-native species in most habitats	Low presence of existing invasive/non-native species in most habitats with NO new invasive species	Mimimal to no abundance of invasive/non-native species in most habitats	Good	Good -	Good
4	Tributaries - Upper Chena	Condition	Water quality	Sediment, temperature, DO, toxins, or litter/trash/residues	High % (TBD) not meeting most ADEC's standards	Moderate habitats meet most ADEC's standards	Most habitats are meeting most ADEC's standards	Majority to all habitats meet most ADEC's standards	Good	Fair	Good
4	Tributaries - Upper Chena	Size	Extent of area	Riparian area and river length	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Good	Good -	
5	Tributaries - Lower Chena	Landscape Context	Connectivity to mainstem river and within tributaries	Number, extent, & type of barriers	Many widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Some widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Few widespread or complete manmade or natural blockages, Where culverts exist % of green barriers based on ADFG fish passage inventory	No widespread or complete manmade or natural blockages,	Fair	Fair -	Good -

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
5	Tributaries - Lower Chena	Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Fair	Fair -	Good -
5	Tributaries - Lower Chena	Landscape Context	Substrate and banks	Amount, type, size, availability of, & distribution	Low diversity of and abundance of suitable substrates in most habitats	Moderate diversity of abundance of suitable substrates/material in most habitats	Diversity and abundance of suitable substrates/material in most habitat for aquatic -	High diversity and abundance of suitable substrates/material in most habitat for aquatic species	Fair	Fair	Good
5	Tributaries - Lower Chena	Condition	Characteristic native communities	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Good	Good -	Good -

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
5	Tributaries - Lower Chena	Condition	Species composition	Presence/absence, extent of invasive species	High abundance of invasive/non-native species in most habitats	Moderate abundance of invasive/non-native species in most habitats	Low presence of existing invasive/non-native species in most habitats with NO new invasive species	Mimimal to no abundance of invasive/non-native species in most habitats	Good	Good -	Good
5	Tributaries - Lower Chena	Condition	Water quality	Sediment, temperature, DO, toxins, or litter/trash/residues	High % (TBD) not meeting most ADEC's standards	Moderate habitats meet most ADEC's standards	Most habitats are meeting most ADEC's standards	Majority to all habitats meet most ADEC's standards	Fair	Fair -	Good -
5	Tributaries - Lower Chena	Size	Extent of area	Riparian area and river length	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Fair	Fair -	Good -
6	Sloughs and Wetlands - Upper Chena	Landscape Context	Connectivity to mainstem river and tributaries	Number, extent, & type of barriers	Many widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Some widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Few widespread or complete manmade or natural blockages, Where culverts exist % of green barriers based on ADFG fish passage inventory	No widespread or complete manmade or natural blockages,	Fair	Fair -	Good -

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
6	Sloughs and Wetlands - Upper Chena	Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Good	Good -	Good
6	Sloughs and Wetlands - Upper Chena	Landscape Context	Substrate and banks	Amount, type, size, availability of, & distribution	Low diversity of and abundance of suitable substrates in most habitats	Moderate diversity of abundance of suitable substrates/material in most habitats	Diversity and abundance of suitable substrates/material in most habitat for aquatic -	High diversity and abundance of suitable substrates/material in most habitat for aquatic species	Good	Good -	
6	Sloughs and Wetlands - Upper Chena	Condition	Characteristic native communities	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Good	Good -	

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
6	Sloughs and Wetlands - Upper Chena	Condition	Species composition	Presence/absence, extent of invasive species	High abundance of invasive/non-native species in most habitats	Moderate abundance of invasive/non-native species in most habitats	Low presence of existing invasive/non-native species in most habitats with NO new invasive species	Mimimal to no abundance of invasive/non-native species in most habitats	Good	Good -	Good
6	Sloughs and Wetlands - Upper Chena	Condition	Water quality	Temperature, DO, toxins, or litter/trash/residues	High % (TBD) not meeting most ADEC's standards	Moderate habitats meet most ADEC's standards	Most habitats are meeting most ADEC's standards	Majority to all habitats meet most ADEC's standards	Good	Good -	Good -
6	Sloughs and Wetlands - Upper Chena	Size	Extent of area	Acres of habitat types	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Good	Fair	Good
7	Sloughs and Wetlands - Lower Chena	Landscape Context	Connectivity to mainstem river and tributaries	Number, extent, & type of barriers	Many widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Some widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Few widespread or complete manmade or natural blockages, Where culverts exist % of green barriers based on ADFG fish passage inventory	No widespread or complete manmade or natural blockages,	Fair	Fair -	Good -

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
7	Sloughs and Wetlands - Lower Chena	Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Fair	Fair -	Good -
7	Sloughs and Wetlands - Lower Chena	Landscape Context	Substrate and banks	Amount, type, size, availability of, & distribution	Low diversity of and abundance of suitable substrates in most habitats	Moderate diversity of abundance of suitable substrates/material in most habitats	Diversity and abundance of suitable substrates/material in most habitat for aquatic -	High diversity and abundance of suitable substrates/material in most habitat for aquatic species	Fair	Fair	Good
7	Sloughs and Wetlands - Lower Chena	Condition	Characteristic native communities	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Fair	Fair	Good -

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
7	Sloughs and Wetlands - Lower Chena	Condition	Species composition	Presence/absence, extent of invasive species	High abundance of invasive/non-native species in most habitats	Moderate abundance of invasive/non-native species in most habitats	Low presence of existing invasive/non-native species in most habitats with NO new invasive species	Mimimal to no abundance of invasive/non-native species in most habitats	Fair	Fair -	Fair
7	Sloughs and Wetlands - Lower Chena	Condition	Water quality	Temperature, DO, toxins, or litter/trash/residues	High % (TBD) not meeting most ADEC's standards	Moderate habitats meet most ADEC's standards	Most habitats are meeting most ADEC's standards	Majority to all habitats meet most ADEC's standards	Fair	Fair	Good -
7	Sloughs and Wetlands - Lower Chena	Size	Extent of area	Acres of habitat types	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Fair	Fair	Good -
8	Mainstem River & Major Forks - Upper Chena	Landscape Context	Connectivity to tributaries and within mainstem	Number, extent, & type of barriers	Many widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Some widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Few widespread or complete manmade or natural blockages, Where culverts exist % of green barriers based on ADFG fish passage inventory	No widespread or complete manmade or natural blockages,	Good	Good -	

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
8	Mainstem River & Major Forks - Upper Chena	Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Very Good	Very Good	
8	Mainstem River & Major Forks - Upper Chena	Landscape Context	Substrate and banks (in channel habitat?)	Amount, type, size, availability of, & distribution, including woody debris	Low diversity of and abundance of suitable substrates and woody material in most habitats	Moderate diversity of and abundance of suitable substrates and woody material in most habitats	Diversity and abundance of suitable substrates and woody debris material in most habitat	High diversity and abundance of suitable substrates and woody debris material in most habitat	Good -	Fair	
8	Mainstem River & Major Forks - Upper Chena	Condition	Characteristic native communities	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Very Good	Very Good	

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
8	Mainstem River & Major Forks Upper Chena	Condition	Species composition	Presence/absence, extent of invasive species	High abundance of invasive/non-native species in most habitats	Moderate abundance of invasive/non-native species in most habitats	Low presence of existing invasive/non-native species in most habitats with NO new invasive species	Mimimal to no abundance of invasive/non-native species in most habitats	Good	Good -	Good
8	Mainstem River & Major Forks Upper Chena	Condition	Water quality	Sediment, temperature, DO, toxins, or litter/trash/residues	High % (TBD) not meeting most ADEC's standards	Moderate habitats meet most ADEC's standards	Most habitats are meeting most ADEC's standards	Majority to all habitats meet most ADEC's standards	Good	Good	
8	Mainstem River & Major Forks Upper Chena	Size	Extent of area	Riparian area and river length	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Good	Good	
9	Mainstem River & Major Forks Lower Chena	Landscape Context	Connectivity to tributaries and within mainstem	Number, extent, & type of barriers	Many widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Some widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Few widespread or complete manmade or natural blockages, Where culverts exist % of green barriers based on ADFG fish passage inventory	No widespread or complete manmade or natural blockages,	Good	Good	

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
9	Mainstem River & Major Forks - Lower Chena	Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Good	Good	
9	Mainstem River & Major Forks - Lower Chena	Landscape Context	Substrate and banks (in channel habitat?)	Amount, type, size, availability of, & distribution, including woody debris	Low diversity of and abundance of suitable substrates and woody material in most habitats	Moderate diversity of and abundance of suitable substrates and woody material in most habitats	Diversity and abundance of suitable substrates and woody debris material in most habitat	High diversity and abundance of suitable substrates and woody debris material in most habitat	Good -	Fair	Good -
9	Mainstem River & Major Forks - Lower Chena	Condition	Characteristic native communities	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Good -	Fair	Good -

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
9	Mainstem River & Major Forks Lower Chena	Condition	Species composition	Presence/absence, extent of invasive species	High abundance of invasive/non-native species in most habitats	Moderate abundance of invasive/non-native species in most habitats	Low presence of existing invasive/non-native species in most habitats with NO new invasive species	Mimimal to no abundance of invasive/non-native species in most habitats	Good -	Fair -	Good -
9	Mainstem River & Major Forks Lower Chena	Condition	Water quality	Sediment, temperature, DO, toxins, or litter/trash/residues	High % (TBD) not meeting most ADEC's standards	Moderate habitats meet most ADEC's standards	Most habitats are meeting most ADEC's standards	Majority to all habitats meet most ADEC's standards	Fair	Fair -	Good -
9	Mainstem River & Major Forks Lower Chena	Size	Extent of area	Riparian area and river length	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Fair	Fair -	Good -
10	Confluence with Tanana	Landscape Context	Delta dynamics	Natural channel complexity	Confined Unnatural Restricted Channel	Some channels are confined or restricted	Unrestricted channel(s)	Some channels are confined or restricted	Good	Good	
10	Confluence with Tanana	Landscape Context	In channel habitat	Amount, type, size, availability of, distribution, dynamic equilibrium (in)stability, large woody debris, substrate and banks	Low diversity of and abundance of suitable substrates/material in most habitats	Moderate diversity of abundance of suitable substrates/material in most habitats	Diversity and abundance of suitable substrates/material in most habitat for aquatic -	High diversity and abundance of suitable substrates/material in most habitat for aquatic species	Good	Good	

ID	Target Name	Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Projected Future Rating w Strategies
10	Confluence with Tanana	Condition	Characterstic native community	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accom-odate most nested targets in abundance	Some habitats have the characteristic native communities to accom-odate most nested targets in abundance	Most habitats have the characteristic native communities to accom-odate most nested targets in abundance	Almost all habitats have the characteristic native communities to accom-odate almost all nested targets in abundance	Good	Good -	
10	Confluence with Tanana	Condition	Species composition	Presence/absence, extent of invasive species	High abundance of invasive/non-native species in most habitats	Moderate abundance of invasive/non-native species in most habitats	Low presence of existing invasive/non-native species in most habitats with NO new invasive species	Mimimal to no abundance of invasive/non-native species in most habitats	Good	Good -	Good
10	Confluence with Tanana	Condition	Water quality	Temperature, DO, toxins, or litter/trash/residues	High TBD% not meeting most ADEC's standards	Moderate habitats meet most ADEC's standards	Most habitats are meeting most ADEC's standards	Majority to all habitats meet most ADEC's standards	Good	Good -	
10	Confluence with Tanana	Size	Extent includes floodplain/riparian and river area	Acres	Severe loss	Moderate to substantial loss	Minimal loss	Mother Nature	Good	Good -	

Alpine Tundra - Upper Chena

Key Attributes & Future Threats

Place cursor over cells with red triangles in top corner for hint

Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Stress Ranking (calculated)	Stress Ranking (User Override)
Landscape Context	Fire regime	Frequency, size, type of fires, severity	Highly altered regime	Moderately altered regime	Mostly natural regime	Mother Nature	Good	Good	-	
Landscape Context	Habitat connectivity	Movement of species	Most species are isolated	Some species are isolated	Most species are mostly able to move freely among most habitats	Mother Nature	Very Good	Very Good	-	
Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Very Good	Very Good	-	
Condition	Characteristic native community	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Good	Fair	High	
Condition	Vegetation composition & structure - mosaic	Diversity of species and age classes	Low diversity of species and age classes	Moderate diversity of species and age classes	Good diversity of species and age classes	High diversity of species and age class	Good	Good	-	

Size	Extent of area	Extent, patch size, and/or distribution	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Very Good	Good	Medium		
Overall Target Health Score (0 = Poor - 100 = Very Good)							89	79			

Boreal Forests - Upper Chena

Key Attributes & Future Threats

Place cursor over cells with red triangles in top corner for hint

Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Stress Ranking (calculated)	Stress Ranking (User Override)
Landscape Context	Fire regime	Frequency, size, type of fires, severity	Highly altered regime	Moderately altered regime	Mostly natural regime	Mother Nature	Good	Fair	High	
Landscape Context	Habitat connectivity	Movement of species	Most species are isolated	Some species are isolated	Most species are mostly able to move freely among most habitats	Mother Nature	Good	Good -	Medium	
Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Good	Good -	Medium	
Condition	Characteristic native community	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Good	Good -	Medium	
Condition	Vegetation composition & structure - mosaic	Diversity of species and age classes	Low diversity of species and age classes	Moderate diversity of species and age classes	Good diversity of species and age classes	High diversity of species and age class	Good	Good -	Medium	

Size	Extent of area	Extent, patch size, and/or distribution	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Good	Good -	Medium	
Overall Target Health Score (0 = Poor - 100 = Very Good)							80	57		

Boreal Forests - Lower Chena

Key Attributes & Future Threats

Place cursor over cells with red triangles in top corner for hint

Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Stress Ranking (calculated)	Stress Ranking (User Override)
Landscape Context	Fire regime	Frequency, size, type of fires, severity	Highly altered regime	Moderately altered regime	Mostly natural regime	Mother Nature	Fair	Fair	Medium	
Landscape Context	Habitat connectivity	Movement of species	Most species are isolated	Some species are isolated	Most species are mostly able to move freely among most habitats	Mother Nature	Fair	Fair -	High	
Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Fair	Fair -	High	
Condition	Characteristic native community	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Good	Good -	Medium	
Condition	Vegetation composition & structure - mosaic	Diversity of species and age classes	Low diversity of species and age classes	Moderate diversity of species and age classes	Good diversity of species and age classes	High diversity of species and age class	Good	Good -	Medium	

Size	Extent of area	Extent, patch size, distribution	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Fair	Fair -	High		
Overall Target Health Score (0 = Poor - 100 = Very Good)							53	37			

Tributaries - Upper Chena

Key Attributes & Future Threats

Place cursor over cells with red triangles in top corner for hint

Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Stress Ranking (calculated)	Stress Ranking (User Override)
Landscape Context	Connectivity to tributaries and within mainstem	Number, extent, & type of barriers	Many widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Some widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Few widespread or complete manmade or natural blockages, Where culverts exist % of green barriers based on ADFG fish passage inventory	No widespread or complete manmade or natural blockages,	Good	Good -	Medium	
Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Good	Good -	Medium	
Landscape Context	Substrate and banks	Amount, type, size, availability of, & distribution	Low diversity of and abundance of suitable substrates in most habitats	Moderate diversity of abundance of suitable substrates/material in most habitats	Diversity and abundance of suitable substrates/material in most habitat for aquatic species	High diversity and abundance of suitable substrates/material in most habitat for aquatic species	Good	Fair	High	

Condition	Characteristic native communities	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Good	Good -	Medium
Condition	Species composition	Presence/absence, extent of invasive species	High abundance of invasive/non-native species in most habitats	Moderate abundance of invasive/non-native species in most habitats	Low presence of existing invasive/non-native species in most habitats with NO new invasive species	Mimimal to no abundance of invasive/non-native species in most habitats	Good	Good -	Medium
Condition	Water quality	Sediment, temperature, DO, toxins, or litter/trash/residues	High % (TBD) not meeting most ADEC's standards	Moderate habitats meet most ADEC's standards	Most habitats are meeting most ADEC's standards	Majority to all habitats meet most ADEC's standards	Good	Fair	High
Size	Extent of area	Riparian area and river length	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Good	Good -	Medium
Overall Target Health Score (0 = Poor - 100 = Very Good)							80	54	

Tributaries - Lower Chena

Key Attributes & Future Threats

Place cursor over cells with red triangles in top corner for hint

Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Stress Ranking (calculated)	Stress Ranking (User Override)
Landscape Context	Connectivity to mainstem river and within tributaries	Number, extent, & type of barriers	Many widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Some widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Few widespread or complete manmade or natural blockages, Where culverts exist % of green barriers based on ADFG fish passage inventory	No widespread or complete manmade or natural blockages,	Fair	Fair -	High	
Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Fair	Fair -	High	
Landscape Context	Substrate and banks	Amount, type, size, availability of, & distribution	Low diversity of and abundance of suitable substrates in most habitats	Moderate diversity of abundance of suitable substrates/material in most habitats	Diversity and abundance of suitable substrates/material in most habitat for aquatic -	High diversity and abundance of suitable substrates/material in most habitat for aquatic species	Fair	Fair	Medium	

Condition	Characteristic native communities	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Good	Good -	Medium	
Condition	Species composition	Presence/absence, extent of invasive species	High abundance of invasive/non-native species in most habitats	Moderate abundance of invasive/non-native species in most habitats	Low presence of existing invasive/non-native species in most habitats with NO new invasive species	Mimimal to no abundance of invasive/non-native species in most habitats	Good	Good -	Medium	
Condition	Water quality	Sediment, temperature, DO, toxins, or litter/trash/residues	High % (TBD) not meeting most ADEC's standards	Moderate habitats meet most ADEC's standards	Most habitats are meeting most ADEC's standards	Majority to all habitats meet most ADEC's standards	Fair	Fair -	High	
Size	Extent of area	Riparian area and river length	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Fair	Fair -	High	
Overall Target Health Score (0 = Poor - 100 = Very Good)							51	34		

Sloughs and Wetlands - Upper Chena

Key Attributes & Future Threats

Place cursor over cells with red triangles in top corner for hint

Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Stress Ranking (calculated)	Stress Ranking (User Override)
Landscape Context	Connectivity to mainstem river and tributaries	Number, extent, & type of barriers	Many widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Some widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Few widespread or complete manmade or natural blockages, Where culverts exist % of green barriers based on ADFG fish passage inventory	No widespread or complete manmade or natural blockages,	Fair	Fair -	High	
Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Good	Good -	Medium	
Landscape Context	Substrate and banks	Amount, type, size, availability of, & distribution	Low diversity of and abundance of suitable substrates in most habitats	Moderate diversity of abundance of suitable substrates/material in most habitats	Diversity and abundance of suitable substrates/material in most habitat for aquatic -	High diversity and abundance of suitable substrates/material in most habitat for aquatic species	Good	Good -	Medium	

Condition	Characteristic native communities	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Good	Good -	Medium	
Condition	Species composition	Presence/absence, extent of invasive species	High abundance of invasive/non-native species in most habitats	Moderate abundance of invasive/non-native species in most habitats	Low presence of existing invasive/non-native species in most habitats with NO new invasive species	Mimimal to no abundance of invasive/non-native species in most habitats	Good	Good -	Medium	
Condition	Water quality	Temperature, DO, toxins, or litter/trash/residues	High % (TBD) not meeting most ADEC's standards	Moderate habitats meet most ADEC's standards	Most habitats are meeting most ADEC's standards	Majority to all habitats meet most ADEC's standards	Good	Good -	Medium	
Size	Extent of area	Acres of habitat types	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Good	Fair	High	
Overall Target Health Score (0 = Poor - 100 = Very Good)							74	51		

Threats (Sources of Stress) List Sources of stress below (max of 12 per target). Enter Contribution of each source where applicable.	Key Attribute >	Connectivity to mainstem river and tributaries	Hydrologic regime	Substrate and banks	Characteristic native communities	Species composition	Water quality	Extent of area		Threat to Target Rank
	Stress Rank>	High	Medium	Medium	Medium	Medium	Medium	High		
Incompatible road design / maintenance	Contribution	High	Low	Low			Low	Low		High
	Threat Rank	High	Low	Low			Low	Low		
Construction of ditches, dikes, drainage, dredging	Contribution	Low	Medium	Low			Low	Medium		Medium
	Threat Rank	Low	Low	Low			Low	Medium		
Culverts that impede fish passage	Contribution	High				Medium				High
	Threat Rank	High				Low				
Filling in sloughs or wetlands	Contribution	Low	Medium			Medium	High	High		High
	Threat Rank	Low	Low			Low	Medium	High		
Incompatible mining (excluding roads)	Contribution	Low	Low				Medium			Low
	Threat Rank	Low	Low				Low			
Residential / commercial development	Contribution	Low	Medium				Medium	High		High
	Threat Rank	Low	Low				Low	High		
Hardening stream banks with rip rap, channelization, etc.	Contribution			Low		Low	Low	Medium		Medium
	Threat Rank			Low		Low	Low	Medium		
Dumping of trash, debris, etc.	Contribution						Low			Low
	Threat Rank						Low			
Stormwater	Contribution		Low				Medium			Low
	Threat Rank		Low				Low			
Fire suppression	Contribution						Low			Low
	Threat Rank						Low			
Incompatible timber management practices	Contribution						Low			Low
	Threat Rank						Low			
Incompatible motorized vehicle use off-roads/ATV/bulldozers (e.g. pioneering, etc.)	Contribution			Low	-	Low	Low			Low
	Threat Rank			Low	-	Low	Low			

Sloughs and Wetlands - Lower Chena

Key Attributes & Future Threats

Place cursor over cells with red triangles in top corner for hint

Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Stress Ranking (calculated)	Stress Ranking (User Override)
Landscape Context	Connectivity to mainstem river and tributaries	Number, extent, & type of barriers	Many widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Some widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Few widespread or complete manmade or natural blockages, Where culverts exist % of green barriers based on ADFG fish passage inventory	No widespread or complete manmade or natural blockages,	Fair	Fair -	High	
Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Fair	Fair -	High	
Landscape Context	Substrate and banks	Amount, type, size, availability of, & distribution	Low diversity of and abundance of suitable substrates in most habitats	Moderate diversity of abundance of suitable substrates/material in most habitats	Diversity and abundance of suitable substrates/material in most habitat for aquatic -	High diversity and abundance of suitable substrates/material in most habitat for aquatic species	Fair	Fair	Medium	

Condition	Characteristic native communities	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Fair	Fair	Medium
Condition	Species composition	Presence/absence, extent of invasive species	High abundance of invasive/non-native species in most habitats	Moderate abundance of invasive/non-native species in most habitats	Low presence of existing invasive/non-native species in most habitats with NO new invasive species	Mimimal to no abundance of invasive/non-native species in most habitats	Fair	Fair -	High
Condition	Water quality	Temperature, DO, toxins, or litter/trash/residues	High % (TBD) not meeting most ADEC's standards	Moderate habitats meet most ADEC's standards	Most habitats are meeting most ADEC's standards	Majority to all habitats meet most ADEC's standards	Fair	Fair	Medium
Size	Extent of area	Acres of habitat types	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Fair	Fair	Medium
Overall Target Health Score (0 = Poor - 100 = Very Good)							40	31	

**Mainstem River & Major Forks -
Upper Chena**

Key Attributes & Future Threats

Place cursor over cells with red triangles in top corner for hint

Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Stress Ranking (calculated)	Stress Ranking (User Override)
Landscape Context	Connectivity to tributaries and within mainstem	Number, extent, & type of barriers	Many widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Some widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Few widespread or complete manmade or natural blockages, Where culverts exist % of green barriers based on ADFG fish passage inventory	No widespread or complete manmade or natural blockages,	Good	Good -	Medium	
Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Very Good	Very Good	-	
Landscape Context	Substrate and banks (in channel habitat?)	Amount, type, size, availability of, & distribution, including woody debris	Low diversity of and abundance of suitable substrates and woody material in most habitats	Moderate diversity of and abundance of suitable substrates and woody material in most habitats	Diversity and abundance of suitable substrates and woody debris material in most habitat	High diversity and abundance of suitable substrates and woody debris material in most habitat	Good -	Fair	Medium	

Condition	Characteristic native communities	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Very Good	Very Good	-	
Condition	Species composition	Presence/absence, extent of invasive species	High abundance of invasive/non-native species in most habitats	Moderate abundance of invasive/non-native species in most habitats	Low presence of existing invasive/non-native species in most habitats with NO new invasive species	Mimimal to no abundance of invasive/non-native species in most habitats	Good	Good -	Medium	
Condition	Water quality	Sediment, temperature, DO, toxins, or litter/trash/residues	High % (TBD) not meeting most ADEC's standards	Moderate habitats meet most ADEC's standards	Most habitats are meeting most ADEC's standards	Majority to all habitats meet most ADEC's standards	Good	Good	-	Low
Size	Extent of area	Riparian area and river length	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Good	Good	-	
Overall Target Health Score (0 = Poor - 100 = Very Good)							82	73		

Mainstem River & Major Forks -
Lower Chena

Key Attributes & Future Threats

Place cursor over cells with red triangles in top corner for hint

Category	Key Attribute	Indicator	Poor	Fair	Good	Very Good	Current Rating	Projected Future Rating w No Action	Stress Ranking (calculated)	Stress Ranking (User Override)
Landscape Context	Connectivity to tributaries and within mainstem	Number, extent, & type of barriers	Many widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Some widespread or complete manmade or natural blockages, Where culverts exist % of red barriers based on ADFG fish passage inventory	Few widespread or complete manmade or natural blockages, Where culverts exist % of green barriers based on ADFG fish passage inventory	No widespread or complete manmade or natural blockages,	Good	Good	-	
Landscape Context	Hydrologic regime	Natural fluctuations of surface and ground water - amount, frequency, timing, duration	Water levels, flows or fluctuations are too high or too low, not related to the precipitation, and unlikely to maintain nested targets in many habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in some habitats within the target and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in most habitats within the target area and downstream	Water levels, flows or fluctuations in relationship to precipitation and ground water are likely to maintain nested targets in almost all habitats within the target area and downstream	Good	Good	-	
Landscape Context	Substrate and banks (in channel habitat?)	Amount, type, size, availability of, & distribution, including woody debris	Low diversity of and abundance of suitable substrates and woody material in most habitats	Moderate diversity of and abundance of suitable substrates and woody material in most habitats	Diversity and abundance of suitable substrates and woody debris material in most habitat	High diversity and abundance of suitable substrates and woody debris material in most habitat	Good -	Fair	Medium	

Condition	Characteristic native communities	Presence of characteristic native communities within habitats	Few habitats have the characteristic native communities to accommodate most nested targets in abundance	Some habitats have the characteristic native communities to accommodate most nested targets in abundance	Most habitats have the characteristic native communities to accommodate most nested targets in abundance	Almost all habitats have the characteristic native communities to accommodate almost all nested targets in abundance	Good -	Fair	Medium	
Condition	Species composition	Presence/absence, extent of invasive species	High abundance of invasive/non-native species in most habitats	Moderate abundance of invasive/non-native species in most habitats	Low presence of existing invasive/non-native species in most habitats with NO new invasive species	Mimimal to no abundance of invasive/non-native species in most habitats	Good -	Fair -	High	
Condition	Water quality	Sediment, temperature, DO, toxins, or litter/trash/residues	High % (TBD) not meeting most ADEC's standards	Moderate habitats meet most ADEC's standards	Most habitats are meeting most ADEC's standards	Majority to all habitats meet most ADEC's standards	Fair	Fair -	High	
Size	Extent of area	Riparian area and river length	Severe, mostly gone	Moderate to substantial loss	Minimal loss	Mother Nature	Fair	Fair -	High	
Overall Target Health Score (0 = Poor - 100 = Very Good)							60	43		

Overall Target Health Score

(0 = Poor - 100 = Very Good)

80

67

