

# The Tongass 77: A Closer Look

## Trout Unlimited, Alaska Program

*Format:* **Watershed name and VCU #** (“Value Comparison Unit,” a U.S. Forest Service management unit) listed in alphabetical order; location; watershed acreage ( ); biogeographic province name and total number of watersheds ranked within it; fish species present with their respective Marxan rankings within the biogeographic province (rankings were generated in Albert and Schoen’s 2007 Conservation Assessment, and were not conducted for cutthroat trout, Dolly Varden char or rainbow trout). The description includes characteristics of each watershed and notable reasons why each area is included in the final Tongass 77 list of Southeast Alaska’s best salmon watersheds currently unprotected at the watershed scale. Also included is the Wilderness Attribute Rating System (WARS) score for each area. WARS is used by the U.S. Forest Service to inventory the wilderness characteristics of roadless areas and provide a measure of an area’s wilderness quality. Scores were updated in 2003 as part of the Tongass Land Management Plan Revision evaluation for Wilderness (USFS, 2003). Maximum potential score is 28.



### **Ahrnklin River (VCU 3720)** - Yakutat Forelands (64,479 acres).

Species present/Marxan rankings within the Yakutat Forelands biogeographic province in which 42 watersheds were ranked:

King (1), Steelhead (1), Sockeye (2), Coho (1), Chum (1), Pink (1)

Description: A combination of lake, muskeg-seep, and glacially-fed tributaries make up the Ahrnklin's 30+ source waters. This low-gradient, meandering river is an important contributor to the Situk-Ahrnklin set gillnet fishery, and is listed in the Tongass Fish and Wildlife Resource Assessment as a primary salmon producer within the area. The Antlen, a tributary of the Ahrnklin, contributes king, coho, and sockeye, as well as Dolly Varden char.

WARS score: 22

### **Ahrnklin River Estuary (VCU 3710)** - Yakutat Forelands (7,681 acres).

Species present/Marxan rankings within the Yakutat Forelands biogeographic province in which 42 watersheds were ranked:

King (7), Steelhead (6), Sockeye (13), Coho (13), Chum (6), Pink (7)

Description: The backbone of the Situk-Ahrnklin set net fishery, which contributed 60,000+ sockeye, 80,000+ coho, and nearly \$1.3 million in ex-vessel value to the 2011 Yakutat set-gillnet fishery. The Ahrnklin Estuary is a vital and productive rearing area for the system’s salmon fry. Most of the Chinook in the system are “zero-check” – no over-wintering in freshwater. The estuary is so productive that the Chinook fry emigrate to the estuary in early summer and, after a few weeks there, increase enough in size and weight to smoltify and exit the system to the ocean.

WARS score: 22

### **Appleton Cove (VCU 2930)** - East Baranof Island (13,643 acres).

Species present/Marxan rankings within the East Baranof Island biogeographic province in which 22 watersheds were ranked:

King (22) Steelhead (22) Sockeye (4) Coho (5) Chum (9) Pink (8)

Description: This VCU has seven anadromous streams that support pink, chum, and coho salmon as well as Dolly Varden char and cutthroat trout. In addition, a small lake system at the mouth of Rodman Bay (but within VCU 2930) supports a run of sockeye salmon. Appleton Creek (at the head of the cove) is the site of a USFS steep pass project completed in 2003 - a pair of waterfalls had blocked upstream passage of anadromous fish about a mile from tidewater. The upper creek is now utilized by returning

coho that were initially planted above the project area. The 2012 SOPA lists salvage logging for blow down in this VCU. There is a USFS public use cabin located near the mouth of Appleton Cove. Roughly 24 miles of remnant logging road and 2,447 acres of timber have taken place in the watershed. WARS score: 25

**Bay of Pillars (VCU 4030) - Kuiu Island (29,828 acres).**

Species present/Marxan rankings within Kuiu Island biogeographic province in which 26 watersheds were ranked:

King (26), Steelhead (7), Sockeye (1), Coho (12), Chum (12), Pink (10)

Description: Bay of Pillars has one of the four current sockeye-producing systems on Kuiu Island, as well as seven other anadromous streams. In addition, Kutlaku Creek and Lake have been recommended to Congress for inclusion in the National Wild and Scenic Rivers System under the Wild River designation. Kwatahein Creek is the main pink producer in Bay of Pillars; in 1989, a 60' fish pass was built to allow access by pink and chum salmon to habitat above a 13' barrier - the project was successful, with an average of 40,000+ pinks at peak escapement making it through the fish pass, versus an average of 1,700/year prior to installation. Additionally, there are 5 other anadromous watersheds that contribute pink, chum, and coho runs to this VCU.

WARS score: 25

**Big John Bay (VCU 4270) - Kupreanof Island (25,934 acres).**

Species present/Marxan rankings within Kupreanof / Mitkof Islands biogeographic province in which 35 watersheds were ranked:

King (35), Steelhead (35), Sockeye (35), Coho (15), Chum (7), Pink (6)

Description: Big John Creek is blocked by falls approximately 1.5 miles upstream from the river's mouth. The lower reaches contain coho, chum, and pink salmon, steelhead and cutthroat trout.

Modification of the falls on Big John Creek is a potential fisheries enhancement project. Despite this, Big John Creek is listed as one of the largest salmon producers in the Rocky Pass area. There is a USFS public use cabin located in the estuary and the area is a favorite among waterfowl hunters. In addition to Big John Creek, there are seven other anadromous fish producing streams in this VCU supporting populations of chum, coho, and pink salmon, as well as Dolly Varden char and cutthroat trout.

WARS score: 26

**Burnett Inlet (VCU 4680) - Etolin Island (22,288 acres).**

Species present/Marxan rankings within Etolin / Zarembo Island Complex biogeographic province in which 27 watersheds were ranked:

King (27), Steelhead (12), Sockeye (27), Coho (19), Chum (15), Pink (11)

Description: Navy Creek (lower Burnett Inlet) has been identified as some of the highest quality fish habitat in the Wrangell Ranger District. A steep pass is located in the lower reach of Navy Creek. In addition to chum, coho, and pink salmon, Navy Creek has populations of cutthroat, Dolly Varden char, and steelhead. Four other anadromous fish streams are listed in the AWC as contributing to this VCU. The Tongass Fish and Wildlife Resource Assessment listed VCU 4680 surrounding Burnett Inlet as a primary salmon producer. Currently part of the "Navy" timber sale, expected to move forward in 2012, this VCU has seen light (<350 acres) timber development with some roaded areas at the head of the bay. SSRAA maintains a remote hatchery on the east shore midway up the inlet; this hatchery produces coho, chum, and sockeye for remote release, as well as coho for Burnett Inlet release.

WARS score: 24

**North Bradfield River (VCU 5140)** - Bradfield Canal (27,838 acres).

Species present/Marxan rankings within Stikine River / Mainland biogeographic province in which 48 watersheds were ranked:

King (3), Steelhead (2), Sockeye (4), Coho (4), Chum (3), Pink (3)

Description: The North Fork of the Bradfield River has high fish values for steelhead and king salmon. Coho, chum, pink, and sockeye salmon are also present, as well as cutthroat, Dolly Varden char, and hooligan. The North Fork of the Bradfield River was rated high value for both sport and commercial fish. The stream also has high scenic and wildlife values. The VCU includes a semi-glacial river, with a wide floodplain crisscrossed by highly mutable multiple braids. The area at the head of Bradfield Canal around the power generation facility receives moderate to heavy use by people visiting and working at the site. Present recreation use levels are low except around the grass flats at the mouth of the rivers. Moderate amounts of brown bear and waterfowl hunting takes place in the lower Bradfield area. The North Fork of the Bradfield River meets the guidelines for Recreational River classification for 27 miles. The nearly 12 miles of roads and 2,300 acres of timber harvest have modified the drainage to the extent that it no longer meets the guidelines for Wild or Scenic River classification.

WARS score: 20

**Castle River (VCU 4350 and 4360)** - Duncan Canal (53,857 acres combined).

Species present/Marxan rankings within Kupreanof / Mitkof Islands biogeographic province in which 35 watersheds were ranked:

King (35), Steelhead (5), Sockeye (10), Coho (7), Chum (11), Pink (13)

Description: An extremely productive 23 mile long river with three major and eight minor tributaries, the Castle sees pink, chum and coho use, as well as having Dolly Varden char, cutthroat, and steelhead. Received "Gold Pin" designation as one of the top 19 quality sport fish watersheds in the region. Noted for mid-summer silver and fall steelhead runs. Two USFS recreation cabins near estuary. Approximately half of the cabin use occurs during the silver salmon season, and is primarily by people from outside Alaska. Castle River also has high wildlife (waterfowl), and recreation values. Significant recreation area and major contributor to commercial fishing industry. Castle River has been recommended for inclusion in the National Wild and Scenic Rivers database. 6 other anadromous streams are listed in the AWC as contributing to fish populations in this VCU. Douglas and Shamrock Timber sales have been proposed in the area.

WARS score: 25

**Chicken Creek (VCU1960)** - East Chichagof Island (20,804 acres).

Species present/Marxan rankings within East Chichagof Island biogeographic province in which 83 watersheds were ranked:

King (83), Steelhead (83), Sockeye (83), Coho (50), Chum (33), Pink (39)

Description: A small system with many tributaries, Chicken Creek supports runs of coho, chum and pink salmon, sometimes seeing escapement of close to 20,000 of the latter. In addition to these, it also hosts Dolly Varden char and cutthroat trout, as well as a small run of spring steelhead. Chicken Creek is one of four streams surveyed as part of the North Chichagof pink escapement index. Chicken Creek receives moderate pressure from several outfitters in the area, both for fishing and hunting. A few areas of mostly high vulnerability karst resources have been identified in the Chicken Creek drainage.

WARS score: 21

**Crab Bay (VCU 2320)** - East Chichagof Island (11,362 acres).

Species present/Marxan rankings within East Chichagof Island biogeographic province in which 83 watersheds were ranked:

King (83) Steelhead (83) Sockeye (83) Coho (34) Chum (23) Pink (27)

Description: Four anadromous streams drain this VCU, with one large and two small streams sharing a common estuary at the head of the bay. Another stream is located about halfway down the bay, on the south side. The streams at both the head of the bay and the south side are surveyed as part of the Tenakee Inlet pink salmon escapement survey. The streams running into Crab Bay are noted for their coho salmon- producing ability. Some historic shore logging (300 acres) has taken place in this VCU. WARS score: 25

**Deep Bay (VCU 2800)** - East Chichagof Island (17,295 acres).

Species present/Marxan rankings within East Chichagof Island biogeographic province in which 83 watersheds were ranked:

King (83) Steelhead (83) Sockeye (83) Coho (22) Chum (15) Pink (15)

Description: Deep Bay Creek produces the largest runs of pink salmon in the area, with peak escapement counts of more than 100,000 fish. This stream and estuary are surveyed as part of the Salisbury Sound pink escapement index. Five tributaries of this drainage, the only AWC drainage listed in the VCU, have been identified as anadromous fish habitat. Deep Bay Creek also has runs of chum and coho salmon.

WARS score: 25

**Devil Cove (VCU 6460)** - Dall Island (4,658 acres).

Species present/Marxan rankings within Dall Island Complex biogeographic province in which 38 watersheds were ranked:

King (38) Steelhead (3) Sockeye (2) Coho (16) Chum (38) Pink (21)

Description: Devil Cove Stream empties this VCU, which contains two anadromous lakes, Devil and Little Devil. Runs of coho, pink, and sockeye salmon are present, as well as cutthroat, steelhead, and Dolly Varden char. Extensive logging has taken place on the private lands to the east of the VCU, with roads throughout. This VCU falls within the Dall Island Special Interest Area established in 2008, and is the site of many interesting and unique geologic features.

WARS score: 21

**Eagle / Herbert River (VCU 260)** - Lynn Canal (36,930 acres).

Species present/Marxan rankings within Lynn Canal / Mainland biogeographic province in which 57 watersheds were ranked:

King (57), Steelhead (3), Sockeye (3), Coho (6), Chum (6), Pink (1)

Description: The Eagle and Herbert Rivers are accessible from the Juneau road system, and offer numerous recreational opportunities to Juneau residents. The Herbert River drains from the Herbert Glacier, and joins the Eagle River after 10 miles. There is a very popular sport sockeye fishery in the area. Two fish enhancement projects, completed in 1990, established several small rearing ponds adjacent to the Eagle River, and introduced large woody debris into the Windfall Creek channel. Mineral exploration is currently occurring in the area.

WARS score: 21

**Essowah Lake (VCU 6590)** - Dall Island (13,152 acres).

Species present/Marxan rankings within Dall Island Complex biogeographic province in which 37 watersheds were ranked:

King (38) Steelhead (1) Sockeye (1) Coho (1) Chum (20) Pink (2)

Description: Recommended to Congress for inclusion in the National Wild and Scenic Rivers System under the Wild River designation, Essowah was identified by ADF&G as one of the 65 "important" watersheds in Southeast Alaska for fisheries values. The system includes five major lakes, several small lakes, and five streams within VCU 6590. Fishing opportunities are excellent for cutthroat trout, Dolly

Varden char, and sockeye, coho, pink, and chum salmon. This system contains 13 miles of anadromous fish streams. Harbor seals frequent Essowah Lake. The Essowah Lake system is also considered a high-value waterfowl wintering area, particularly for trumpeter swans, and serves as a stopover for migratory birds.

WARS score: 24

**Lake Eva (VCU 2950)** - Northeast Baranof Island (12, 242 acres).

Species present/Marxan rankings within East Baranof Island biogeographic province in which 22 watersheds were ranked:

King (22), Steelhead (2), Sockeye (2), Silver (8), Chum (6), Pink (6)

Description: A very short creek draining Eva Lake to saltwater. USFS cabin on northwest side of the lake. This system contains the largest known population of over-wintering Dolly Varden char in region. Received one of 19 “Gold Pin” designations from ADF&G for top-quality watersheds in the region. Notable for exceptional steelhead and trout fishing and important subsistence sockeye fishery.

WARS score: 25

**Farragut Bay - South Arm (VCU 900)** - Frederick Sound (27,977 acres).

Species present/ Marxan rankings within the Stikine River / Mainland biogeographic province in which 47 watersheds were ranked:

King (6), Steelhead (5), Sockeye (7), Coho (8), Chum (4), Pink (4)

Description: There are runs of pink, chum, coho, sockeye, and Chinook salmon, as well as steelhead, rainbow, cutthroat trout, and Dolly Varden char in the Farragut River. Marine and intertidal waters support significant populations of Tanner crab, Dungeness crab, King crab, and various species of shrimp and clams. Farragut Bay is a destination attraction for residents of Petersburg. The area offers public recreation cabins, saltwater fishing, outstanding scenery, opportunities to hunt waterfowl, mountain goats, and moose, opportunities to run small boats on the Farragut River, and the opportunity to walk the trails and logging roads. The Farragut River has high commercial and sport fish values, with an estimated annual peak escapement of 22,000 pink salmon, as well as high scenic and wildlife values. This river has a significant Chinook salmon run and the lower ten miles is considered high-quality fish habitat. Marine and intertidal areas support high commercial, personal use, and recreational fisheries for Tanner, Dungeness, and King crab.

WARS score: 27

**Fish Bay (VCU 2870)** - West Baranof Island (41,747 acres).

Species present/Marxan rankings within the West Baranof Island biogeographic province in which 43 watersheds were ranked:

King (43), Steelhead (43), Sockeye (43), Coho (2), Chum (2), Pink (2)

Description: The Tongass Fish and Wildlife Resource Assessment listed Fish Bay as an important salmon producer, with an estimated annual peak escapement for Fish Bay Creek pink salmon of close to 60,000 fish. Fish Bay Creek, at the head of the inlet, is surveyed as part of the Salisbury sound pink salmon escapement index. This VCU includes nine anadromous fish producers with a total of 17 tributaries listed in the AWC. Historic logging activity (1,500 acres) has taken place in this VCU, with most of the development occurring at the head of the bay.

WARS score: 25

**Gilbert Bay (VCU 570)** - Port Snettisham, (28,144 acres).

Species present/Marxan rankings within Taku River / Mainland biogeographic province in which 57 watersheds were ranked:

King (57), Steelhead (57), Sockeye (10) Silver (8), Chum (3), Pink (4)

Description: A series of low-elevation tributaries form Gilbert Creek that enters the south end of the bay. Sweetheart Creek is fed by two substantial lakes and enters from the east. Artificially maintained sockeye run is heavily used for personal-use and sport fishing. Three other small anadromous streams are noted in the AWC as contributing fish to this VCU. A hydroelectric project is proposed in the Sweetheart watershed.

WARS score: 24

**Goose Flats (VCU 2260)** - East Chichagof Island (23,390 acres).

Species present/Marxan rankings within East Chichagof Island biogeographic province in which 83 watersheds were ranked:

King (83), Steelhead (83), Sockeye (83), Coho (29), Chum (29), Pink (26)

Description: Big Goose and Little Goose Creeks drain this VCU, and are home to coho, chum and pink salmon, with survey counts of the latter regularly topping 80,000 fish, and on one occasion coming close to 250,000 fish. Both watersheds are surveyed as part of the Tenakee Inlet pink salmon escapement index. The Goose Flats are an important recreational resource for sport fishing, hunting and kayaking. The flats provide remarkable waterfowl habitat, making the area a prime destination for waterfowl hunters.

WARS score: 26

**Granite Creek (VCU 7170)** - Cleveland Peninsula (10,134 acres).

Species present/Marxan rankings within the Revillagigedo Island / Cleveland Peninsula biogeographic province in which 92 watersheds were ranked:

King (92), Steelhead (6), Sockeye (92), Coho (11), Chum (8), Pink (15)

Description: This VCU contains three anadromous streams - a shorter, smaller stream that supports pink, chum and coho to the south, and Granite Creek (right and left forks) in Raymond Cove. This stream has a large (>8,000 m<sup>2</sup>) amount of spawning habitat, and with its many side-channels and sloughs as well as a very low gradient, could be considered prime-rearing habitat, as well. In addition to the salmon, Granite Creek supports populations of Dolly Varden char and cutthroat trout. Granite Creek and Raymond Cove are surveyed as part of the West Behm Canal pink salmon escapement index.

WARS score: 25

**Harding River (VCU 5110)** - Stikine River / Mainland (44,088 acres).

Species present/ Marxan rankings within the Stikine River / Mainland biogeographic province in which 47 watersheds were ranked:

King (13), Steelhead (12), Sockeye (5), Coho (7), Chum (13), Pink (14)

Description: The Harding River is the major fish producer in this VCU. Species include pink, chum, coho, Chinook, and sockeye salmon, steelhead, rainbow trout, cutthroat trout, and Dolly Varden char. The Harding River has been a source of hatchery broodstock for both Chinook and chum; the chum salmon are said to grow to a larger size than most other stocks. Jump pools were developed on the Harding River to improve migratory access and increase production, and many other fish enhancement / improvement projects have been undertaken on the Harding River. 16 miles of the Harding River have been nominated for inclusion in the National Wild and Scenic Rivers database.

WARS score: 22

**Helm Bay (VCU 7160)** - Cleveland Peninsula (16,728 acres).

Species present/Marxan rankings within the Revillagigedo Island / Cleveland Peninsula biogeographic province in which 92 watersheds were ranked:

King (92), Steelhead (14), Sockeye (11), Coho (27), Chum (19), Pink (23)

Description: Long N-S incision into Cleveland peninsula with a total of seven anadromous flows. All support pink, chum, and coho in good numbers; Helm Lake Creek supports a small population of sockeye and steelhead. Helm Bay Head Creek supports a small run of steelhead, as well. Total estimated spawning area in this VCU is close to 20,000 m<sup>2</sup>.

WARS score: 25

**Irish Lakes/Creek and Keku Creek System (VCU 4290)** - Rocky Pass (53,546 acres).

Species present/Marxan rankings within Kupreanof / Mitkof Islands biogeographic province in which 35 watersheds were ranked:

King (35), Steelhead (11), Sockeye (4), Coho (3), Chum (9), Pink (11)

Description: Substantial stream fed by three major tributaries and Irish Lakes. A series of three fish passages have been installed on this system. Significant steelhead runs observed by local fishermen. Excellent sockeye and coho producer, and Irish Lakes supports a population of Kokanee, or landlocked sockeye. Timber harvest associated with the adjacent Shamrock Sale have not impacted stream corridor to date.

WARS score: 24-upper/26-lower

**Kadake Creek (VCU 4210)** - Kuiu Island (34,111 acres).

Species present/Marxan rankings within Kuiu Island biogeographic province in which 26 watersheds were ranked:

King (26), Steelhead (1), Sockeye (26), Coho (1), Chum (1), Pink (1)

Description: Kadake Creek is the largest producer of salmon on Kuiu Island, producing cutthroat trout, steelhead, Dolly Varden char, and pink, chum, and coho salmon. There is also a small but persistent population of sockeye salmon that has been repeatedly observed in the system. Pink surveys have regularly enumerated in excess of 60,000 fish, occasionally topping 90,000. Kadake Creek is surveyed as part of the Saginaw Bay pink salmon escapement index. Received designation as one the top 19 fish-producing watersheds in Southeast Alaska by ADF&G for its contributions to both sport and commercial fishing industries. Recommended to Congress for inclusion in the National Wild and Scenic Rivers System. Kadake Creek has been assessed for a fisheries enhancement project concerning LWD (large woody debris) replacement.

WARS score: 19

**Katzeihin River (VCU 90)** - Lynn Canal (52,282 acres).

Species present/Marxan rankings within Lynn Canal / Mainland biogeographic province in which 57 watersheds were ranked:

King (57), Steelhead (57), Sockeye (57), Coho (3), Chum (2), Pink (57)

Description: The Katzeihin River contains a productive run of chum salmon. In addition to chum, the Katzeihin also supports coho and pink salmon, as well as Dolly Varden char. The Katzeihin is one of two rivers in the geographic province with outstanding values for fish, and is a significant contributor to this resource in upper Lynn Canal. The river is very scenic and the pristine condition of the valley is notable with no evidence of past development such as mining trails or timber harvest. The 1997 Tongass Land Management Plan recommended portions of the Katzeihin for Wild designation in the National Wild and Scenic Rivers Program.

WARS score: 25

**Kelp Bay (VCU 3140)** - South Arm of East Baranof Island (35,259 acres).

Species present/Marxan rankings within East Baranof Island biogeographic province in which 22 watersheds were ranked:

King (22) Steelhead (22) Sockeye (22) Coho (7) Chum (10) Pink (13)

Description: This area is considered one of the most unique estuary environments in the Outer Islands geographic provinces. Clear River (non-glacial) and Glacier River (glacial) converge into the same grass flat / intertidal zone, creating habitat for a diverse number of bird, fish and plant species, and supporting high densities of brown bear and land otter. This VCU is listed as a primary salmon producer within the N. Baranof area, and is surveyed in both the summer chum and pink escapement indices. Clear River has seen historic escapements approaching 80,000 and 10,000 pink and chum, respectively. Approximately 10 river miles of Glacier River was allocated to the Wild River LUD. The Glacier River has outstanding scenic value because of the diverse terrain it crosses and the active glaciation occurring there. The geology and ecology of the drainage are remarkable because of the variety of landforms represented.  
WARS score: 25

**Kuiu Salt Lagoon (VCU 4180) - East Kuiu Island (9,775 acres).**

Species present/Marxan rankings within Kuiu Island Biogeographic province in which 26 watersheds were ranked:

King (26), Steelhead (26), Sockeye (26), Coho (11), Chum (13), Pink (15)

Description: There are six AWC-listed streams in this VCU - three in Seclusion Harbor/Salt Lagoon, one at head of Seclusion Harbor, and two directly to the south of Seclusion Harbor. The best salmon producer may be the stream at the head of Seclusion Harbor, which boasts estimated annual peak escapements of 21,800 pink and 1,425 chum salmon. All of the streams support coho and Dolly Varden char, and three support pink and chum, as well. Seclusion Head (larger) and Seclusion N. surveyed as part of Affleck Canal pink escapement index, with historic cumulative counts approaching 25,000 fish. Seclusion Harbor/ Salt Lagoon has a unique combination of freshwater and saltwater habitats, making it valuable habitat for Sitka black-tailed deer, waterfowl, black bear, wolves, furbearers, marine mammals, and bald eagles.

WARS score: 26

**Kushneahin Lakes / Creek (VCU 4310) - Southwest Kupreanof Island (22, 326 acres).**

Species present/Marxan rankings within Kupreanof / Mitkof Islands biogeographic province in which 35 watersheds were ranked:

King (35), Steelhead (14), Sockeye (3), Coho (18), Chum (18), Pink (10)

Description: Kushneahin Creek has high sport fish value for sockeye and steelhead. A 7.9-foot, three-step falls is a partial barrier to steelhead and coho and sockeye salmon and a complete barrier to chum and pink salmon, and occurs after the first two tributaries enter the system about 2.5 mi. from intertidal. Pink production in the lower portion of the river is significant; as many as 75,000 salmon have been enumerated by aerial survey. The lower stream and mouth is surveyed as part of the Affleck Canal pink salmon escapement index. In addition to Kushneahin and its lakes and tributaries, there are four other streams listed in the AWC as contributors to the fishery values of this VCU. System recommended for LUD I or II status by ADF&G. Significant contributor to area subsistence, sport and commercial fisheries. Timber harvest associated with adjacent Shamrock Sale have not impacted stream corridor to date.

WARS score: 24-upper/26-lower

**Krestof Sound (VCU 3090) - West Baranof Island (8,077 acres).**

Species present/Marxan rankings within the West Baranof Island biogeographic province in which 43 watersheds were ranked:

King (43), Steelhead (43), Sockeye (43), Coho (20), Chum (16), Pink (17)

Description: One large stream (Lava Falls Creek) and one small streams empty into Krestof Sound, and all support runs of chum, coho, and pink salmon. In 1996 and 1997, two fish passes was constructed on the tidewater falls of Lava Falls Creek, entering the southwest corner of Port Krestof. The stream was



stocked with coho salmon fry from Eagle River (Kruzof); this stream now supports a coho salmon run above the barrier, and pinks have been observed using the fish passes, as well. This VCU was also listed among the VCUs with the highest community-use value.

WARS score: 22

**Little Eagle Lake and Eagle River (VCU 5190) - Bradfield Canal (43,704 acres).**

Species present/Marxan rankings within the Stikine River / Mainland biogeographic province in which 48 watersheds were ranked:

King (15), Steelhead (13), Sockeye (48), Coho (18), Chum (16), Pink (11)

Description: Eagle River has outstandingly remarkable fish and recreation values of national significance. Eagle River is the only AWC- listed stream in this VCU, and has two tributaries and lake (Little Eagle Lake not listed as anadromous by AWC, appears to be a stretch of high-gradient flow upon exit – some sources show lake as having anadromous fish, however). ADF&G lists Eagle River as one of the 65 "important" watersheds and as an important cutthroat trout stream in Southeast Alaska.

Fishing for steelhead is a major activity and the river receives heavy use by outfitters and guides whose clients are generally from outside Alaska. In addition to Dolly Varden char, cutthroat trout, and steelhead, the river system has all five species of Pacific salmon including a large run of sockeye salmon, as well as pink salmon runs averaging over 25,000 per year. Surveyed as part of the Anan pink salmon escapement index, Eagle River has recorded pink salmon escapements as high as 271,400 fish, with aerial surveys enumerating 100,000+ pinks in 2000, 2002-2005, and 2008. Eagle River also hosts a run of steelhead. Eagle Lake provides habitat for sockeye salmon, and some sources indicate that one of the few Alaska populations of Kokanee (landlocked sockeye salmon) are present in this VCU.

Nominated for National Wild and Scenic River designation. Power line cut parallels length of river 500 m to west, site of proposed Tyee line. Power line crosses bay near mouth, line from hydro creek project (Bradfield River).

WARS score: 20

**Lovelace Creek (VCU 4300) - Southwest Kupreanof Island (14,418 acres).**

Species present/Marxan rankings within Kupreanof / Mitkof Islands biogeographic province in which 35 watersheds were ranked:

King (35), Steelhead (35), Sockeye (35), Coho (19), Chum (15), Pink (15)

Description: Three tributaries combine to form large main creek. Significant chum and pink salmon returns contribute to local commercial fisheries. Excellent sport fishing opportunities for steelhead and trout are available, as well. The AWC lists five other anadromous streams in this VCU, contributing coho, pink and chum salmon, as well as Dolly Varden char and cutthroat to the fisheries value of this VCU. Lovelace Creek is surveyed as part of the Affleck Canal pink salmon escapement index.

WARS score: 24-upper/26-lower

**Long Bay (VCU 2280) - East Chichagof Island (18,477 acres).**

Species present/Marxan rankings within East Chichagof Island biogeographic province in which 83 watersheds were ranked:

King (83), Steelhead (83), Sockeye (83), Coho (39), Chum (36), Pink (31)

Description: A single anadromous stream with two forks flows into the head of Long Bay. This stream is considered a "high production stream" and has seen annual returns of chum salmon averaging over 14,000 fish (2000 - 2010), and historic pink salmon escapements topping 50,000 fish. It is also noted for its coho salmon-producing ability. Long Bay Head is utilized as an index stream for both pink and summer chum escapements.

WARS score: 26

**Moira Sound - Dickman Bay (VCU 6840)** - South Prince of Wales Island (24,470 acres).

Species present/Marxan rankings within the South Prince of Wales Island biogeographic province in which 32 watersheds were ranked:

King (32), Steelhead (10), Sockeye (2), Coho (9), Chum (9), Pink (11)

Description: The system includes two major lakes, several small lakes, and 11 anadromous fish-bearing streams. Kegan Lake and Streams are known for recreational and subsistence fishing for sockeye, coho, and pink salmon, as well as steelhead, Dolly Varden char, and rainbow trout. ADF&G lists this system among the 65 "most important" watersheds in Southeast Alaska for fisheries values. Kegan Creek has seen aerial surveys in excess of 40,000 pink salmon. Kugel Creek supports sockeye, coho, chum and pink salmon as well as steelhead, but a cascade prevents the anadromous usage of the lake above.

WARS score: 25

**Mosman Inlet (VCU 4670)** - Etolin Island (25,521 acres).

Species present/Marxan rankings within Etolin / Zarembo Island Complex biogeographic province in which 27 watersheds were ranked:

King (27), Steelhead (6), Sockeye (27), Coho (7), Chum (3), Pink (4)

Description: Eight anadromous fish-bearing streams drain this VCU, with the four most productive occurring at the head of the inlet. The three main flows at the head (Flat, Mosman, and Unnamed Mosman NW Head) host runs of chum, coho and pink salmon, with the latter occasionally occurring in large numbers at the combined estuary. The pink salmon of these three are enumerated as part of the Burnett pink salmon escapement index, and historic combined counts have topped 100,000 fish. Steelhead are also present in Flat Creek, and a small but persistent run of sockeye has been observed using the creek as well. Moderate timber development (2,500+ acres) and roads (25+miles) have occurred in this VCU with the bulk of the activity being concentrated in the head and east head portions. Currently part of the "Navy" timber sale, expected to move forward 2012.

WARS score: 23(eastern)/19 (central/western)

**Mount Edgumbe (VCU 3080)** - West Baranof Island (53,059 acres).

Species present/Marxan rankings within the West Baranof Island biogeographic province in which 43 watersheds were ranked:

King (43), Steelhead (1), Sockeye (43), Coho (1), Chum (1), Pink (1)

Description: Freds Creek is a good salmon producer in this area, providing habitat for pink, coho, and chum salmon, steelhead, and cutthroat trout. Cascade Creek and 17 other unnamed streams have been identified in the AWC as fish-bearing streams that provide habitat for coho, pink, and chum salmon in this VCU. There is a USFS public-use cabin at Freds Creek.

WARS score: 22

**Nakwasina River (VCU 2990)** - West Baranof Island (23,446 acres).

Species present/Marxan rankings with West Baranof Island biogeographic province in which 43 watersheds were ranked:

King (43,) Steelhead (43), Sockeye (8), Coho (6), Chum (5), Pink (5)

Description: One of 12 streams surveyed as part of the Sitka Sound pink salmon escapement index. Proposed road corridor, as well as proposed power line corridor. There are three other anadromous fish-producing flows that contribute to the coho and pink salmon production as well as Dolly Varden char values for this VCU, but the anchor is the Nakwasina River, with 10 tributaries. This river supports large runs of coho and pink salmon, with aerial counts of the latter occasionally topping 100,000 fish and in one instance going over 250,000. It also supports chums and a small but persistent population of sockeye. In addition, the Nakwasina was the site of the former state record Dolly Varden char catch, and regularly yields some of the larger specimens of this species found anywhere in the Tongass. Extensive

research on the river's coho population has been undertaken for the last 20 or so years. Approximately 10 miles of roads and 1,700 acres of timber harvest have taken place in the watershed.

WARS score: 20

**Neka Bay (VCU 2010)** - East Chichagof Island (39,773 acres).

Species present/Marxan rankings within East Chichagof Island biogeographic province in which 83 watersheds were ranked:

King (83), Steelhead (83), Sockeye (3), Coho (14), Chum (4), Pink (8)

Description: Heavily roaded and developed, Neka River has seen timber harvest along its length. This river is unique among Chichagof Island streams, being the only one to host all five species of pacific salmon as well as steelhead, Dolly Varden char, and cutthroat trout. Five other anadromous streams drain this VCU, and support populations of chum, pink, and coho salmon. This VCU is listed as a primary sport fish producer and a secondary salmon producer. Bird and waterfowl rearing and nesting areas are abundant. Some of the most noted nesting areas on Chichagof Island are in the Neka Bay area.

WARS: score: 21

**Nichols Bay (VCU 7040)** - South Prince of Wales Island (17,735 acres).

Species present/Marxan rankings within the South Prince of Wales Island biogeographic province in which 32 watersheds were ranked:

King (32), Steelhead (9), Sockeye (6), Coho (3), Chum (32), Pink (6)

Description: Nichols Lake and its associated inlet and outlet streams provide excellent spawning and rearing habitat for sockeye, coho, pink, and chum salmon, steelhead trout, and Dolly Varden char. In addition, this VCU contains six other anadromous fish-producing streams hosting pink, chum, and coho salmon.

WARS score: 25

**Nutkwa Inlet (VCU 6850)** - South Prince of Wales Island (12,182 acres).

Species present/Marxan rankings within the South Prince of Wales Island biogeographic province in which 32 watersheds were ranked:

King (32), Steelhead (32), Sockeye (9), Coho (12), Chum (10), Pink (12)

Description: This area provides habitat for coho, pink, and chum salmon. In addition, sockeye salmon and steelhead trout utilize the stream flowing into Nutkwa Lagoon. Nutkwa Lagoon receives an estimated peak escapement of 155,000 pink salmon. In addition to the Lagoon, there are seven other anadromous streams and one anadromous lake that contribute to the coho, pink and chum salmon, as well as Dolly Varden char and cutthroat trout values of this VCU. Nutkwa Lagoon is listed among the VCUs with the highest sensitivity to disturbance of subsistence use areas.

WARS score: 23

**Port Camden (VCU 4200)** - Northeast Kuiu Island (33,651 acres)

Species present/Marxan rankings within the Kuiu Island Biogeographic province in which 26 VCUs were ranked:

King (26), Steelhead (26), Sockeye (26), Coho (4), Chum (10), Pink (13)

Description: Slippery Creek, on the west side of Port Camden Bay, has been enhanced with a fish ladder, providing access for stocked coho to the upper watershed. Pink, chum, steelhead, and Dolly Varden char also use the fish pass. Nine other AWC-listed streams in the VCU, contributing chum, pink, coho, and Dolly Varden char. Bay Head site of NSRAA incubation box project for fall chum; suspended in 2000 for lack of performance. Port Camden Bay represents a rich ecosystem. It has quality habitat for black bear, fur bearers, and marine mammals. It supports quality waterfowl hunting at the head of the bay, and has a tradition of high subsistence use. The area along both sides of Port Camden is a popular

black bear-hunting area. Based on data compiled from 1985 to 1994, VCU 4200 surrounding Port Camden is listed among the top 25 percent of VCUs for black bear harvest.  
WARS score: 19/26 (West/East)

**Port Houghton Salt Chuck (VCU 790)** - Port Houghton (43,091 acres).

Species present/Marxan rankings within Taku River/Mainland biogeographic province in which 57 watersheds were ranked:

King (57), Steelhead (2), Sockeye (8), Silver (9), Chum (7), Pink (7)

Description: A large and complex salt chuck-estuary system with a lake-fed river and multiple streams, the Port Houghton salt chuck is one of only two salt chucks on the mainland in Southeast Alaska. The Rusty River is the backbone of fish production in this VCU, and is a substantial contributor to commercial fishing in the region. The Rusty is notable for producing all five varieties of pacific salmon and a substantial steelhead run. Surveyed as part of the Port Houghton pink salmon escapement index, the Rusty River is often the largest pink salmon producer in District 10; from 1993 to 2002 it had an average peak escapement of 150,000 fish, and saw a peak pink salmon escapement in excess of 500,000 fish in 2003. In addition to the Rusty River, Glen Creek also hosts populations chum, coho and pink salmon, as well as steelhead, cutthroat trout, and Dolly Varden char. Two other small streams are listed in the AWC as contributing to the fisheries value of this VCU. U.S. House of Representatives voted to add area to Wilderness system in 1989. Area has been repeatedly slated for timber sales.

WARS score: 25

**Port Stewart (VCU 7190)** - Cleveland Peninsula (22,076 acres).

Species present/Marxan rankings within the Revillagigedo Island / Cleveland Peninsula biogeographic province in which 92 watersheds were ranked:

King (92), Steelhead (18), Sockeye (92), Coho (22), Chum (12), Pink (14)

Description: Stewart Creek anchors this VCU, producing coho, chum and pink salmon, with runs of the latter occasionally exceeding 40,000 fish. It also has a run of steelhead. A barrier falls approximately 2,000 yards from tidewater prevents fish passage on the mainstem of the creek; however, the easternmost tributary continues on, albeit at a higher gradient than ideal for spawning and rearing activity. Five other short- run anadromous creeks drain the western side of the inlet. Anecdotal evidence of high Dungeness crab populations in the bay fronting Stewart Creek. One of the Cleveland Peninsula VCUs with the highest community-use values.

WARS score: 25

**Redoubt Lake (VCU 3500)** - West Baranof Island (23,262 acres).

Species present/Marxan rankings within the West Baranof Island biogeographic province in which 42 watersheds were ranked:

King (43), Steelhead (12), Sockeye (1), Coho (15), Chum (43), Pink (16)

Description: The main anadromous feature of this VCU is 3,200-acre Redoubt Lake, which stretches approximately nine miles end-to-end, lies at an elevation of about 10 feet above sea level, and is drained via a low-tide falls directly into saltwater. The lake is meromictic, with an approximately 100 m deep freshwater lens that overlays a bottom layer of dense, anoxic water. The Forest Service has been working with various partners, including ADF&G and NSRAA, since the early 1980s to restore Redoubt Lake's sockeye salmon escapement to historical levels of over 50,000 adults annually. In addition to being a major source of subsistence sockeye, Redoubt also hosts runs of coho and pink salmon, as well as steelhead, cutthroat, and Dolly Varden char. This system has been recognized as a "Red Pin" quality sport-fishing watershed, in addition to being an important Dolly Varden char over-wintering area. There is a USFS public-use cabin located on the east shore of the lake.

WARS score: 21

**Reflection Lake (VCU 7270)** - Cleveland Peninsula (11,169 acres).

Species present/Marxan rankings within the Revillagigedo Island / Cleveland Peninsula biogeographic province in which 92 watersheds were ranked:

King (92), Steelhead (16), Sockeye (1), Coho (36), Chum (92), Pink (72)

Description: Reflection Lake drains into Short bay, Bell Arm via Short Creek. The system's summer coho stock was enhanced by plants from Deer Mountain Hatchery from 1988 to 1983. Reflection Lake stock became the summer coho hatchery broodstock for releases in Ketchikan Creek, Ward Lake, Margaret Lake, Bold Island Lakes, Burnett Inlet, Bell Island, and Neck Lake. Reflection Lake provides habitat for sockeye, coho, and pink salmon, steelhead trout and Dolly Varden char, and is listed as a "Red Pin" quality sport-fishing destination by ADF&G. Short Creek has an estimated annual peak escapement of 9,000 pink salmon. There is a USFS public-use cabin located on the SE shore of Reflection Lake.

WARS score: 26

**Rodman Bay (VCU 2920)** - East Baranof Island (24,795 acres).

Species present/Marxan rankings within the East Baranof Island biogeographic province in which 43 watersheds were ranked:

King (22), Steelhead (22), Coho (22), Coho (1), Chum (1), Pink (1)

Description: Five AWC streams with chum, coho and pink, Rodman Creek contributes Dolly Varden char, and one tributary has cutthroat trout. Area was heavily logged in the 1960s with some 4,000 acres of timber harvest and 26 miles of roads. USFS began implementing restoration projects in 1986, discontinued to work on higher-value projects.

WARS score: 25

**Salmon Lake (VCU 3230)** - West Baranof Island (7,640 acres).

Species present/Marxan rankings within the West Baranof Island biogeographic province in which 43 watersheds were ranked:

King (43), Steelhead (3), Sockeye (6), Coho (19), Chum (21), Pink (22)

Description: With two inlet streams and one outlet, Salmon Lake drains northward into the southwestern tip of Silver Bay. The system supports coho, sockeye, chum and pink salmon, with escapements of the latter occasionally exceeding 100,000 fish. In addition, Salmon Lake also sees steelhead, cutthroat, and Dolly Varden char, as well as occasional stray king salmon from the nearby Medvieje Hatchery. In addition to being a subsistence destination for the nearby town of Sitka, Salmon Lake was identified as a primary sport fish producer in the Tongass Fish and Wildlife Resource Assessment. There is a USFS public-use cabin on the western shore of the lake, along the USFS- maintained Redoubt-Salmon Lake trail. Limited forestry has occurred in this VCU, with <100 acres cut.

WARS score: 21

**Saltery Bay (VCU 2310)** - East Chichagof Island (18,402 acres).

Species present/Marxan rankings within East Chichagof Island biogeographic province in which 83 watersheds were ranked:

King (83), Steelhead (83), Sockeye (83), Coho (25), Chum (21), Pink (25)

Description: Highly productive fish stream. High overall Watershed Risk Index (WRI), with possibility of future harvest in potentially unstable soil areas and impacts to downstream fish habitat. Prior to 1971, 200 acres were cut; since that time, an additional 125 acres have been logged. Most of this VCU is viewed in the background from Tenakee Inlet. The area is utilized by hunters, fishermen, and is used as an anchorage.

WARS score: 23

**Sandborn Canal (VCU 840)** - Port Houghton (17,089 acres).

Species present/Marxan rankings within Taku River/Mainland biogeographic province in which 57 watersheds were ranked:

King (57), Steelhead (4), Sockeye (57), Silver (15), Chum (13), Pink (18)

Description: Sandborn Creek is the only AWC-listed anadromous stream in this VCU. With an estuary/meadow complex almost as long as the creek proper, this short (<3mi.) creek has high salmonid density and diversity for its size. Second only to the Rusty River in terms of productivity within Port Houghton, with an estimated annual peak escapement of 80,300 pink and 26,000 chum salmon, Sandborn Creek also hosts populations of coho salmon, steelhead, cutthroat trout, and Dolly Varden char. Chinook and sockeye salmon have also been observed in small numbers in Sandborn Creek, although they are not listed by the AWC as occurring in this watershed. Sandborn Creek is surveyed as part of the ADF&G summer chum escapement index, and is also part of the pink salmon escapement index survey. U.S. House of Representatives voted to add area to Wilderness system in 1989. Area has been repeatedly slated for timber sales.

WARS Score: 25

**Saook Bay (VCU 2940)** - East Baranof Island (23,823 acres).

Species present/Marxan rankings within East Baranof Island biogeographic province in which 22 watersheds were ranked:

King (22), Steelhead (22), Sockeye (22), Coho (6), Chum (4), Pink (4)

Description: This VCU is drained by three anadromous fish-bearing streams. Two of the streams have limited productivity due to their high gradient past the intertidal area, but the main flow (West Head Creek) is an extremely good pink producer, with survey counts occasionally approaching 200,000 fish. In addition to pink salmon, West Head Creek also has runs of chum and coho salmon as well as Dolly Varden char. Saook Bay's West Head Creek is an index stream for both summer chum and pink salmon. Seven tributaries feed into the mainstem of this creek, and all are noted in the AWC as anadromous fish producers. The head of the bay is roaded on both sides of the creek, and a moderate amount of the lower drainage (750+ acres) has been logged.

WARS score: 25

**Sarkar Lakes (VCU 5541)** - North Prince of Wales Island (25,392 acres).

Species present/Marxan rankings within the North Prince of Wales Island biogeographic province in which 117 watersheds were ranked:

King (117), Steelhead (55), Sockeye (4), Coho (12), Chum (55), Pink (58)

Description: The Sarkar River watershed is relatively large when compared to others on Prince of Wales Island. A series of in-channel lakes make up this river system, including five major lakes, plus at least six others over ten acres in size. The interconnected lake pattern of the river system is caused by the very shallow gradient of the drainage and the geologic/geomorphic channel controls at the outlet of each lake that regulate the outflow level. The Sarkar Lakes area is extremely popular for recreational activities, with an emphasis on fishing. This system received a "Gold Pin" designation by ADF&G as one of 19 outstanding sport fishery resources in SE AK, and is additionally noted as a high-value cutthroat trout producer. The system also hosts high populations of Dolly Varden char, pink and coho salmon, as well as a significant run of sockeye salmon, which is important for both commercial and sport harvest.

Recommended to Congress for inclusion in the National Wild and Scenic Rivers System.

WARS score: 23

**Sea Lion Cove (VCU 3050)** - West Baranof Island (9,517 acres).

Species present/Marxan rankings within the West Baranof Island biogeographic province in which 43 watersheds were ranked:

King (43), Steelhead (43), Sockeye (11), Coho (23), Chum (20), Pink (21)

Description: Four anadromous streams drain this VCU, and all see runs of chum, coho, and pink salmon. In addition, the southernmost stream in Sea Lion Cove (113-61-10060) supports a run of sockeye, as well as a population of Dolly Varden char. Sea Lion Creek coho fry were cultured in the '80s by NSRAA for planting into Sea Lion and Surprise Lakes in this VCU. Both of these systems have barriers to fish passage in their outlet streams that prevent utilization of the lake habitat. Lake fertilization was also undertaken at Sea Lion Lake as a joint project by NSRAA, USFS, and ADF&G.

WARS score: 22

**Sea Otter Harbor (VCU 6420)** - Dall Island (5,527 acres).

Species present/Marxan rankings within Dall Island Complex biogeographic province in which 38 watersheds were ranked:

King (38), Steelhead (2), Sockeye (4), Coho (7), Chum (12), Pink (5)

Description: This VCU is drained by three anadromous streams listed in the AWC, all of them draining into Manhattan Arm of Sea Otter Harbor. The outer two are small streams and most likely low producers, as both show evidence of being tidally inaccessible due to subsurface flow through the intertidal substrate at low tide. The third, Manhattan Lake and Creek, provide excellent habitat for sockeye, coho, pink, and chum salmon as well as steelhead, Dolly Varden char, and cutthroat trout.

WARS score: 23

**Seal Bay (VCU 2290)** - East Chichagof Island (22,976 acres).

Species present/Marxan rankings within East Chichagof Island biogeographic province in which 83 watersheds were ranked:

King (83), Steelhead (83), Sockeye (83), Coho (24), Chum (11), Pink (13)

Description: Three anadromous fish-bearing streams drain this VCU, one on the east side near the head and two sharing a common estuary at the head of the bay. Seal Bay East is a small stream that produces a modest run (<10,000) of pink salmon. Seal Bay North Channel has runs of coho, chum, and pink, but the star of the show is Seal Bay Head, flowing into the SE corner of the bay. This stream is surveyed as part of the summer chum escapement index, and has shown peak counts as high as 89,000 fish.

Anecdotal evidence puts this run of chums earlier than most, enabling the purse seine fleet to fish before most other runs are available. Seal Bay Head (as well as Seal Bay East) is also surveyed as part of the Tenakee Inlet pink salmon escapement index, and combined counts have occasionally topped 150,000 fish. This stream also has coho and Dolly Varden char. Seal Bay sees extensive use from the residents of Tenakee Springs for hunting, fishing, hiking, and kayaking.

WARS score: 26

**Security Bay (VCU 4000)** - North Kuiu Island (27,917 acres).

Species present/Marxan rankings within Kuiu Island biogeographic province in which 26 watersheds were ranked:

King (26), Steelhead (3), Sockeye (26), Coho (3), Chum (3), Pink (4)

Description: Fall Dog Creek, one of two large streams at the head of Security Bay, is unique when compared to streams of similar size on the islands of Southeast Alaska. In addition to having a salt chuck, it has a number of artesian springs in its bed that provide an upwelling of water into the stream and keep portions of it ice free late into the year. The ice-free conditions provide fall spawning habitat for a November run of chum salmon and protect the eggs during winter. The salt chuck at the head of Security Bay is known for high-quality waterfowl hunting. Three other small, anadromous fish-bearing streams flow into the shared estuary at the head of the inlet, and support small runs of chum, coho, and pink salmon. Dean Creek and Lookout Point Creek round out the anadromous streams in this VCU, and

both have runs of coho, pink, and chum salmon, as well as Dolly Varden char, cutthroat, and steelhead.  
WARS score: 22

**Sitkoh Bay (VCU 2430)** - East Chichagof Island (25,502 acres).

Species present/Marxan rankings within East Chichagof Island biogeographic province in which 83 watersheds were ranked:

King (83), Steelhead (7), Sockeye (12), Coho (6), Chum (7), Pink (6)

Description: Listed as a primary salmon producer by USFS, this long river supports coho, chum, and pink salmon as well as Dolly Varden char and cutthroat trout. In a radio-tracking survey undertaken on emigrating cutthroat trout from nearby Sitkoh Lake, 90% of the tags were tracked to this river. The mid and upper reaches show signs of historic logging (4,000 acres harvested), with some high-water channels cut by roads (48 miles of roads). A joint habitat restoration project between USFS, ADF&G, SCS and TU will be undertaken in the summer of 2012. The USFS has listed Sitkoh Bay and Creek as one of its seven initial top restoration priorities on the Tongass National Forest.

WARS score: 18

**Sitkoh Lake (VCU 2440)** - East Chichagof Island (11,962 acres).

Species present/Marxan rankings within East Chichagof Island biogeographic province in which 83 watersheds were ranked:

King (83), Steelhead (6), Sockeye (2), Coho (49), Chum (45), Pink (47)

Description: One of the most studied and well-documented anadromous systems in the Tongass. There are four Pacific salmon (sockeye, coho, pink, and chum) valuable for commercial, subsistence, and sport fishing that spawn and rear in these waters. In addition, steelhead trout is a favored sport fishing species. The steelhead run in Sitkoh Creek is considered valuable. Annual peak escapement of pink salmon in Sitkoh Creek is estimated at 79,000 returning adults. Other species include Dolly Varden char, anadromous cutthroat trout, stickleback, and smelt. Sitkoh Creek is listed among the ADF&G 65 "Important" watersheds for its fish values. It is one of the few recreation opportunities in Southeast Alaska that provides trail access along a stream from tidewater to a lake and recreation cabin destination. Nominated for inclusion in National Wild and Scenic Rivers System. There are two USFS public-use cabins on lake. The USFS has listed Sitkoh Creek and Bay as one of its seven initial top restoration priorities on the Tongass National Forest. 20 miles of logging acres and roughly 2,300 acres of timber harvest are present in the watershed.

WARS score: 18

**Situk River (VCU 3660)** - Yakutat Forelands (44,238 acres).

Species present/Marxan rankings within the Yakutat Forelands biogeographic province in which 42 watersheds were ranked:

King (2), Steelhead (2), Sockeye (3), Coho (4), Chum (4), Pink (3)

Description: Received one of 19 "Gold Pin" designations from ADF&G for top quality watersheds in the region, as well as recognition as an important Dolly Varden char over-wintering location. Notable for exceptional steelhead fishing with returns numbering in the thousands of fish, the Situk also supports a very large coho run and close to 500,000 pink salmon annually. A world-class destination fishery, the Situk sees anglers from the U.S., Canada and Europe on a regular basis.

WARS score: 22

**Moira Sound - South Arm (VCU 6920)** - Southeast Prince of Wales Island (23,509 acres).

Species present/Marxan rankings within South Prince of Wales biogeographic province in which 32 watersheds were ranked:

King (32), Steelhead (1), Sockeye (3), Coho (1), Chum (1), Pink (1)



Description: This VCU is noted as a primary salmon producer, with five major and eight minor anadromous fish-bearing systems. The minor anadromous streams are largely intermittent or blocked by barriers, and contribute a small amount to the overall productivity of the VCU. Johnson Lake and Perkins Creek are areas of high quality fish habitat of regional significance. The extensive floodplain in the Johnson Lake area contains large spawning areas and the lake is a major producer of sockeye salmon. Chum, coho, and pink salmon are also present in the system, with estimated peak escapement of the latter at 53,500 fish. Perkins Creek has runs of pink, chum, and coho, as well as a small run of sockeye. Moira South Arm Head and Moira South Arm Head SW share a common estuary and host coho, chum, and pink salmon, and occasionally see survey counts as high as 50,000+ pink salmon. Sick Creek and its tributary lakes and streams are on the west side of the South Arm, and have runs of coho, pink, chum, and sockeye. All five of the major streams in this VCU are surveyed as part of the Moira Sound pink escapement index, and combined counts regularly exceed 100,000 fish. Johnson Lake and Creeks has been nominated for National Wild and Scenic Rivers designation. This area listed among the VCUs with the highest community fish and wildlife values.

WARS score: 25

**Spacious Bay (VCU 7220)** - East Cleveland Peninsula (29,920 acres).

Species present/Marxan rankings within Revillagigedo Island / Cleveland Peninsula biogeographic province in which 92 watersheds were ranked:

King (92), Steelhead (1), Sockeye (92), Coho (1), Chum (3), Pink (1)

Description: Wasta Creek anchors this VCU, with five tributaries, one lake and a smattering of beaver ponds. Wasta Creek sees chum, coho and a historic run of sockeye. It also receives an estimated 52,600 pink salmon, and is an excellent steelhead, Dolly Varden char and cutthroat producer. Wasta Creek has received "Red Pin" status as an important sport fish area, and has been recommended for LUD I or II status by ADF&G. There are 14 other anadromous fish-bearing streams listed in the AWC for this VCU, with seven having negligible value, four producing pink and chum in small numbers due to limited spawning habitat, and three with good production. Spacious Bay NW Head hosts pink, chum, and coho, as well as steelhead, cutthroat trout, and Dolly Varden char. Margarita Creek has coho and pink, and Sea Lion Cove Creek sees chum, pink, and coho. Along with Wasta, these three are surveyed as part of the West Behm Canal pink salmon escapement index. In all, the surveyed spawning area of this VCU has been listed at over 58,000 m<sup>2</sup>.

WARS score: 25

**Lower Speel River (VCU 5900)** - Port Snettisham (19,591 acres).

Species present/Marxan rankings within the Taku River / Mainland biogeographic province in which 57 watersheds were ranked:

King (57), Steelhead (57), Sockeye (5), Coho (4), Chum (10), Pink (11)

Description: Speel River is a large, glacially fed river that flows into Speel Arm of Port Snettisham. There are two clear tributaries that are known to support anadromous fish, and above a non-navigable rapid on the mainstem, one clear tributary/lake system that has had habitat improvement done and anecdotally supports a small run of coho. Wolverine Creek flows into the Speel on river-left about 3 miles from tidewater, and supports runs of chum, pink, and coho. An unnamed lake (commonly referred to as Speel Lake) and its outlet stream flow into the mainstem another 3 miles upstream. This lake is the source of the Snettisham hatchery sockeye broodstock, and has a weir located on the outlet stream to enumerate passing sockeye. In addition to sockeye, this stream sees large runs of pink and coho salmon, with some chum as well (most likely remnants of the 1980-1984 Snettisham hatchery production). Steelhead, cutthroat trout and Dolly Varden char are also found in this creek, and spawning pairs of king salmon are occasionally observed as well. Eulachon are seasonally found in the mainstem glacial river.

WARS score: 24

**Streets Lake (VCU 4660) - Etolin Island (17,443 acres).**

Species present/Marxan rankings within Etolin / Zarembo Island Complex biogeographic province in which 27 watersheds were ranked:

King (27), Steelhead (27), Sockeye (3), Coho (14), Chum (7), Pink (10)

Description: The valley separating Steamer Knoll from the Keating Range is home to two of the three anadromous producers in this VCU. Porcupine Creek drains from 2 small lakes and flows north. It has high sport fish value (of regional significance) for cutthroat trout, steelhead, and Dolly Varden char. The creek has a good coho salmon run and a pink salmon escapement that has recently seen numbers approaching 50,000 fish. Porcupine is surveyed as part of the Whale Pass pink salmon escapement index, and has been nominated for National Wild and Scenic Rivers designation. Streets Lake and Creek flow south into Rocky Bay, and see runs of coho, pink, chum, and sockeye, and also host cutthroat trout, steelhead, and Dolly Varden char. Streets Lake has been noted as an important area of Dolly Varden char over-wintering habitat. Small portion of VCU currently part of "Navy" timber sale, expected to move forward in 2012.

WARS score: 23

**Sunny Cove (VCU 6750) - North Prince of Wales Island (6,885 acres).**

Species present/Marxan rankings within the North Prince of Wales Island biogeographic province in which 117 watersheds were ranked:

King (117), Steelhead (25), Sockeye (37), Coho (87), Chum (117), Pink (87)

Description: Provides habitat for coho, pink, and sockeye salmon as well as steelhead, and has the highest escapement of pink and chum salmon within the area, receiving an estimated peak escapement of 49,200 pink salmon annually. A fish pass was completed on Sunny Creek in 1984 to increase habitat for pink salmon. More work was planned to decrease maintenance on the fish pass; no record has been found of the project being undertaken. One other anadromous stream is listed in the AWC for this VCU, and it has pink salmon as well as steelhead.

WARS score: 24

**Sweetwater Lake/N. Honker Divide/S. Honker Divide (VCUs 5730, 5740 and 5750) - North Prince of Wales Island (71,005 acres combined).**

Species present/Marxan rankings within North Prince of Wales biogeographic province in which 117 watersheds were ranked:

Sweetwater Lake (5730): King (117) Steelhead (27), Sockeye (2), Silver (4), Chum (3), Pink (6)

N. Honker (5740): King (117) Steelhead (10), Sockeye (5), Silver (8), Chum (63), Pink (80)

S. Honker (5750): King (117) Steelhead (11), Sockeye (11), Silver (20), Chum (75), Pink (15)

Description: This massive 36 mile long watershed flows both north from Lake Galea through Hatchery Creek and Sweetwater Lake to Coffman Cove and south from Thorne Lakes to the Thorne River out to saltwater in Thorne Bay making it the largest island river system in the region. The Sweetwater-Thorne System has received designation as one the top 19 fish-producing watersheds in southeast by ADFG for its contributions to both sport and commercial fishing industries. The Sweetwater/Hatchery Creek sockeye run is an important resource within its management district, and from 1996 through 2001 contributed up to 29% of the total area subsistence harvest. The Thorne River is known for the largest steelhead run on Prince of Wales Island, averaging 650 adult fish annually. In addition to the above-named streams, there are 15 other anadromous streams in this VCU group. The lower reaches of Logjam Creek are within the Sweetwater VCU, with Sweetwater Lake serving as the estuary for this expansive salmonid-producing system. Excellent recreational opportunities abound in this watershed complex, which is especially popular with local guides and canoeists. The only known inland-nesting bald eagles in Southeast Alaska are located in the Thorne-Hatchery area. 36 miles of the Thorne River-Hatchery

Creek corridor meet guidelines (and have been recommended) for Scenic River classification. A number of timber sales have taken place on the perimeter of this watershed.

WARS score: 25

**Thoms Lake (VCU 4790)** - Wrangell Island (20,620 acres).

Species present/Marxan rankings within Etolin / Zarembo Island Complex biogeographic province in which 27 watersheds were ranked:

King (27), Steelhead (3), Sockeye (1), Coho (4), Chum (9), Pink (5)

Description: This VCU is listed as a primary sport fish producer, and contains two major and six minor anadromous fish-bearing streams. Thoms Creek is the most productive fishery on Wrangell Island, providing a diversity of lake, stream, and estuary habitats, and supporting an important subsistence sockeye fishery. It also sees chum, coho, and pink salmon, as well as steelhead, cutthroat trout, and Dolly Varden char. Skip Creek flows into Zimovia Strait, and has runs of chum, coho, and pink salmon, as well as steelhead and Dolly Varden char. There is a barrier to chum and most pink passage upstream that shuts off several miles of habitat, and a possible fish pass has been discussed. No action has been reported as taken. Whiskey, April, Bearing, Cinnamon, Haux, and an unnamed creek also contribute to coho and cutthroat trout values in this VCU. There is a moderate (23mi.) amount of roads and timber development (1,200 acres) in this VCU, mostly in the Thoms Creek and Skip Creek watersheds.

WARS score: 20

**Totem Bay (VCU 4320)** - South Kupreanof Island (42,921 acres).

Species present/Marxan rankings within Kupreanof / Mitkof Islands biogeographic province in which 35 watersheds were ranked:

King (35), Steelhead (6), Sockeye (35), Coho (5), Chum (3), Pink (3)

Description: Six flows, two of which are substantial in size, enter Totem Bay. Totem Creek dominates the head of the bay and hosts pink, coho, and chum, as well as steelhead, cutthroat trout, and Dolly Varden char. Two other small streams share an estuary with Totem Creek and host their own populations of coho and pink salmon. Nancy Slough flows into the bay to the west of Totem Creek, and sees runs of chum, coho, and pink salmon as well as steelhead. Zim creek comes in immediately to the west of Nancy Slough, and has a good run of pink salmon, as well as coho. Dolly Varden char and steelhead are also found in Zim Creek. Zim Creek, Totem Creek, and Totem Bay NE are surveyed as part of the Totem Bay pink salmon escapement index, and see combined counts occasionally reaching 100,000 fish. The pink and chum production of Totem Bay is important to local commercial fisheries.

WARS score: 24

**Tunehean Creek (VCU 4280)** - Southwest Kupreanof Island (48,833 acres).

Species present/Marxan rankings within Kupreanof / Mitkof Islands biogeographic province in which 35 watersheds were ranked:

King (35), Steelhead (9), Sockeye (7), Coho (6), Chum (2), Pink (4)

Description: A series of lakes drain three major tributaries that support excellent steelhead runs and over-wintering populations of Dolly Varden char. Recommended for LUD I or II designation by ADF&G. Important location for local fishing guides and significant contributor to commercial fishing in the area. Large woody debris has been added to areas of the stream to enhance fish habitat. Timber harvest associated with adjacent Shamrock Sale have not impacted stream corridor.

WARS score: 24-upper/26-lower

**Union Bay (VCU 7090)** - West Cleveland Peninsula (14,071 acres).

Species present/Marxan rankings within Revillagigedo Island / Cleveland Peninsula biogeographic province in which 92 watersheds were ranked:

King (92), Steelhead (8), Sockeye (92), Coho (10), Chum (6), Pink (8)

Description: This VCU is drained by two anadromous fish-bearing streams sharing the same common estuary. The stream on the north has good spawning and rearing habitat in its upper and lower areas, but the middle is higher gradient and boulder-ridden Black Bear Creek drains two lakes in the southern portion of the watershed, and is of higher overall quality in spawning and rearing habitat. This stream is surveyed as part of the Union Bay pink salmon escapement survey, and routinely sees fish counts in excess of 75,000 fish. In addition to pink salmon, both streams support chum and coho salmon, and Black Bear Creek also hosts steelhead, cutthroat trout, and Dolly Varden char. System received a “Red Pin” designation as a quality sport fish watershed from ADF&G and is an important recreation and subsistence area for residents of Myers Chuck.

WARS score: 25

**Ushk Bay (VCU 2810) - Hoonah Sound (20, 822 acres).**

Species present/Marxan rankings within East Chichagof Island biogeographic province in which 84 watersheds were ranked:

King (84), Steelhead (84), Sockeye (84), Coho (5), Chum (6), Pink (5)

Description: This VCU is drained by seven anadromous fish-bearing streams, all of which host coho, chum, and pink salmon. Three creeks flow into the flat at the head of the bay, sharing a common estuary. Ushk Bay SW (the larger flow) is surveyed as part of the summer chum and pink escapement indices for Hoonah Sound commercial fisheries. The streams flowing into the bay occasionally see combined pink surveys in excess of 100,000 fish. Ushk Bay is a popular recreation area for Sitka residents and one of the few remaining intact watersheds between Sitka and Hoonah Sound. ADF&G has ranked the area in the top five watersheds in the region for brown bear. Sitka Ranger District is currently undertaking initial scoping for a 30 mmbf timber sale.

WARS score: 25

**Vixen Inlet (VCU 7180 and 7200) - West Cleveland Peninsula (36,027 acres).**

Species present/Marxan rankings within Revillagigedo Island / Cleveland Peninsula biogeographic province in which 92 watersheds were ranked:

King (92), Steelhead (30), Sockeye (92) Coho (5), Chum (1), Pink (5)

Description: This VCU contains 11 streams listed in the AWC as supporting anadromous fish runs. Most of the streams are incised into bedrock, and several have small falls or cascades just out of tidewater that could present obstacles to spawning fish at low water conditions. All of these streams see spawning pinks in their lower reaches, and some also host coho and chum salmon. Cutthroat trout and Dolly Varden char are found in three of them, as well. Vixen River flows into the head of the bay at the end of a long tidal flat, effectively making the upper 1/3 of the bay into a common estuary for six of the streams. Although it has a barrier to anadromous fish passage, Vixen River has runs of coho and pink salmon, and is an excellent chum producer. It also hosts steelhead, as well as cutthroat trout and Dolly Varden char. Hofstad Lake supports populations of cutthroat trout and Dolly Varden char.

WARS score: 25

**Waterfall Bay (VCU 6480) - Dall Island (7,732 acres).**

Species present/Marxan rankings within Dall Island Complex biogeographic province in which 38 watersheds were ranked:

King (38) Steelhead (38) Sockeye (38) Coho (28) Chum (38) Pink (31)

Description: This VCU falls within the Dall Island Special Interest Area established in 2008, and is the site of many interesting and unique geologic features. This VCU is drained by two streams, with one being listed as an anadromous stream, and the other nominated but never recorded. The small stream halfway down the north side of the inlet enters saltwater as a waterfall, slowing fish passage with the

tide. There is a lake at the head of the bay that empties via a cataract to saltwater, and in nominating documents is noted to support coho and sockeye salmon.

WARS score: 21

**Welcome Cove (VCU 6470) - Dall Island (3,529 acres).**

Species present/Marxan rankings within Dall Island Complex biogeographic province in which 38 watersheds were ranked:

King (38) Steelhead (38) Sockeye (3) Coho (19) Chum (17) Pink (24)

Description: This VCU has two anadromous systems. Welcome Lake is located about 1/3 mile from saltwater and is drained by a small, mid-gradient stream that flows over bedrock for some of its length. The lake and stream support coho, sockeye, pink, and chum salmon, as well as Dolly Varden char. Augustine Bay, to the south of Welcome Cove, has a small anadromous stream with two forks. This stream is high-gradient as it enters saltwater and continues at a fairly steep rise especially above the forks, but is listed in the AWC as supporting small runs of coho, chum, and pink salmon.

WARS score: 21

**Whiting River (VCU 610) - Port Snettisham (142,926 acres).**

Species present/Marxan rankings within the Taku River / Mainland biogeographic province in which 57 watersheds were ranked:

King (57), Steelhead (57) Sockeye (2) Coho (2) Chum (2) Pink (2)

Description: The Whiting is a highly-braided stream channel with a wide, wandering river valley, contained by 6,500' mountain ridges capped with glaciers and a large lake (Crescent Lake) near the headwaters. The drainage is un-roaded and undeveloped. Wildlife characteristic of the area include brown and black bear, mountain goat and wolf. Fishery ratings in the ADF&G Forest Habitat Integrity Plan are moderate-high for the Whiting. The river has been used by commercial guides for rafting trips. The Whiting River valley is outstanding for its scenery, pristine character, recreation potential, and fishing. It has been recommended for inclusion in the National Wild and Scenic Rivers system. Crescent Lake, at the head of Whiting River, supports a good population of rainbow trout as well as a population of sockeye salmon. The sockeye have been used as broodstock by the Snettisham hatchery for stocking projects within the area.

WARS score: 24

**Yes Bay (VCU 7240) - Cleveland Peninsula (43,739 acres).**

Species present/Marxan rankings within the Revillagigedo Island / Cleveland Peninsula biogeographic province in which 91 watersheds were ranked:

King (5), Steelhead (23), Sockeye (2), Coho (25), Chum (23), Pink (25)

Description: McDonald Lake has historically supported one of the largest sockeye runs in Southeast Alaska. Wolverine Creek flows out of McDonald Lake into Yes Bay. The area is well-known for fisheries and recreation. McDonald Lake and Wolverine Creek have a regionally significant fishery with a good steelhead run, as well as five species of salmon, grayling, western brook lamprey, cutthroat trout, rainbow trout, and Dolly Varden char. This stream also has good coho smolt production values. Woodpecker Lake Creek, a tributary of Wolverine Creek, had a series of jump pools blasted into bedrock, and the resulting fish pass opened up 2.6 mi. of stream habitat and 161 acres of lake habitat that was successfully planted with coho salmon in 1994. McDonald Lake / Wolverine Creek received a "Red Pin" designation as a quality sport fish watershed from ADF&G, in addition to being recommended to Congress for inclusion in the National Wild and Scenic Rivers System.

WARS score: 25

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#23 Revised Anadromous Stream Catalog of Southeastern Alaska - Appendix D, District 4, Volume I

#23 Revised Anadromous Stream Catalog of Southeastern Alaska - Appendix B, District 2, Volume II: Moira Sound Area Survey Data

#23 Revised Anadromous Stream Catalog of Southeastern Alaska - Appendix B, District 2, Volume I: South End Area Survey Data

#30 Revised Anadromous Stream Catalog of Southeastern Alaska - Appendix A, District 1, Volume III: Western Behm Canal and Ketchikan Area Survey Data

#59 Revised Anadromous Stream Catalog of Southeastern Alaska - Appendix C, District 3, Volume I, Subdistricts 103-11, 103-15, 103-21, 103-25, 103-30, and 103-40

#60 Revised Anadromous Stream Catalog of Southeastern Alaska - Appendix C, District 3, Volume III, Subdistricts 103-80 and 103-90

#145 Special Report on Anadromous Stream Surveys of Cleveland Peninsula, Including Emerald Bay, Vixen Inlet, Union Bay, Clarence Strait, Bond Bay, Spacious Bay, and Portions of Port Stewart and Helm Bay – Subdistricts 107-10 and 102-80, Volume I

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#170 Southeastern Alaska 1984 Pink and Chum Salmon Escapement Surveys 1985 Pre-Emergent Fry Program

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1 1J03-01 Sockeye Salmon Stock Status and Escapement Goal for Redoubt Lake in Southeast Alaska

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#11-18 Pink Salmon Stock Status and Escapement Goals in Southeast Alaska

ADFG Comprehensive Salmon Enhancement Plan for Southeast Alaska: Phase III

Emerald Bay / Lower Cleveland Peninsula Small Old Growth Habitat Reserve Review, Interagency Evaluation - 25 Feb 1999

Appendix E, Tongass FEIS: Appendix E - Wild and Scenic Rivers Analysis

USFS Technical Report R10-TP-68: Southeast Chichagof Landscape Analysis

Tongass Land Management Plan Revision Supplemental Environmental Impact Statement, Roadless Area Maps & Descriptions: <http://www.tongass-seis.net/roadless.html>