

APPENDIX C.

ASDI 7

Escapement

Alagnak (Branch) River Tower

2161

Category: Escapement *Visual count method from a tower or structure located over stream banks.*
Method: Tower

Anad. Water No.: 324-10-10150-2010

Management Area: Bristol Bay

District: Naknek/Kvichak District

Site Selct Method: Geographic features

Years Data Collected:	1957 to current
Years with no data:	1976-1999
Sampling Frequency	daily
Check if project is On-Going	<input checked="" type="checkbox"/>

WebSite:

DBFormat: Excel Table

DataQuality: Good

Monitoring Tier Assignment: MT-1

Sampling Location Shapefile: EscSites_Loc

Area of Inference

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

The Alagnak River is commonly called the Branch River. Counting towers were operated starting in 1957. Dates of operation spanned from late June through late July. Field notes indicated that many days of operation had incomplete counts due to poor visibility (Anderson, 1999.). Tower operations ended in 1976. Starting in 2000, tower operations resumed, and is considered an ongoing program for ADF&G.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	incidental
Sockeye		adult	anadromous	wild stock	target spec

Contacts:

Project Leader: Slim Morstad, N/K Area Management Biol
 ADF&G Commercial Fisheries, King Salmon, AK (907) 246-3341

Agencies associated with this Data Set:

Lead Agency: Alaska Department of Fish & Game Commercial Fisheries (907) 246-3341
 P.O. Box 37, King Salmon, AK 99613

DDAP Category	ID	Objective
ABUNDANCE	A6	True estimate for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV6	Spawn timing

Data are kept at agcy.

Data are reported

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Data available via hardcopy

References:

Anderson, Cindy J., 1999.

Historic Counting Tower Projects in the Bristol Bay Area, 1955-1998. Alaska Department of Fish and Game, Commercial Fisheries, Anchorage. Regional Information Report No. 2A99-12.

Glick, B., K. Weiland, J. Browning, & S. Morstad. Februa

Salmon Spawning Ground Surveys in the Bristol Bay Area, Alaska, 1999. Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage. Regional Information Report No. 2A00-04

Weiland, Morstad, Browning, Sands, Fair, & Crawford. 2

Bristol Bay 2002 Annual Management Report, ADF&G, Commercial Fisheries, Anchorage. RIR No. 2A03-18.

West, Fred, W., 2003.

Abundance, age, sex and size statistics for Pacific Salmon in Bristol Bay, 2002. Alaska Department of Fish and Game, Commercial Fisheries Division. RIR No. 2A03-23. Anchorage.

Big Creek Salmon Weir

2882

Category: Escapement *Visual count method at points of restricted passage*

Method: Weir/fence/screen/d

Anad. Water No.:

Management Area: Bristol Bay

District: Naknek/Kvichak District

Site Selct Method: Geographic features

Years Data Collected: 2000 to 2003

Years with no data: none

Sampling Frequency daily

Check if project is On-Going

WebSite:

DBFormat: Unknown

DataQuality good

Sampling Location Shapefile: EscSites_Loc

Area of Inference

Monitoring Tier Assignment: MT-2

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

Beginning in 2000, the King Salmon U.S. Fish and Wildlife Office installed a weir on Big Creek, Becharof National Wildlife Refuge to estimate salmon escapement. Salmon are an important Refuge resource and accurate escapement estimates are needed to conserve these resources. Prior to the weir, only aerial survey data, focused on Chinook salmon, were available. From 2000 to 2002, five species of Pacific salmon and six resident fish species were passed through the weir. The annual salmon escapement was highly variable for the main spawning populations with an average escapement of 14,450 for Chum salmon *Oncorhynchus keta*, the most abundant species, followed by Chinook *O. tshawytscha* (2,246) and coho salmon *O. kisutch* (2,099). Less than 100 sockeye *O. nerka* and pink salmon *O. gorbuscha* migrated through the weir each year.

Since 2002, the operation of the V-shaped floating resistance board weir included the use of digital video equipment to monitor fish passage. In 2003, the video monitoring chute was open at all times other than for collecting biological samples, allowing fish to pass freely through the weir.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	target spec
Sockeye		adult	anadromous	wild stock	incidental
Coho		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	incidental
Chum		adult	anadromous	wild stock	target spec
Dolly Varden		adult	anadromous	wild stock	target spec
Rainbow Tro		adult	anadromous	wild stock	target spec

Contacts:

Project Leader Kellie Witton Fishery Biologist
 USFWS King Salmon Field Office King Salmon AK

Agencies associated with this Data Set:

Lead Agency U.S. Fish & Wildlife Service King Salmon Field Office (907) 246-3442
 P.O. Box 277 King Salmon AK 99613 USA

DDAP Category	ID	Objective
ABUNDANCE	A4	True estimate of adult in river migrants
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV6	Spawn timing

PRODUCTIVITY P1 Size at age, growth

Data are kept at agcy.

Data are reported As resources permit*Check if Meta Data are available:* *Check if Charge Money for Data:* ***Data may be accessed as follows:***

Special request via email or letter & provided electronically

References:

Anderson, J. L., K. S. Whitton, K. K. Cornum, and T. D.

Abundance and run timing of adult Pacific salmon in Big Creek, Becharof National Wildlife Refuge, 2003. U. S. Fish and Wildlife Service, King Salmon Fish and Wildlife Field Office, Alaska Fisheries Data Series Report Number 2004-7, King Salmon, Alaska.

Glick, B., K. Weiland, J. Browning, & S. Morstad. Februa

Salmon Spawning Ground Surveys in the Bristol Bay Area, Alaska, 1999. Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage. Regional Information Report No. 2A00-04

Egegik District Aerial Surveys

2872

Category: Escapement *Visual fish counts obtained from over flights by airplane or helicopter.*
Method: Aerial Survey

Anad. Water No.:

Management Area: Bristol Bay

District: Egegik District

Site Selct Method: Geographic features

Years Data Collected: 1974 to current

Years with no data:

Sampling Frequency 1 - 23surveys/year

Check if project is On-Going

WebSite:

DBFormat: Unknown

DataQuality Fair

Sampling Location Shapefile: AerialSvy_Loc

Area of Inference

Monitoring Tier Assignment: MT-3

Line Geometry Shapefile: AerialSvy_LAI

Polygon Geometry Shapefile: AerialSurvey_PA1

Description

Survey flights are conducted from small fixed wing aircraft (Super Cub, Cessna 185, or Cessna 206) or a helicopter (Robertson R-22). Surveys are flown during late summer and fall to assess escapements of Chinook, chum and coho salmon in portions of the Egegik District. Salmon counts for these drainages are indices of the total number of each species present in the spawning area at the time of the survey.

Surveyed areas for Chinook, Chum and Pink Salmon include: Egegik River, Shosky Creek, Whale Mountain Creek, Mossy Creek, Gertrude Creek, Kaye's Creek, Takayoto Creek, Angle Creek and main stem King Salmon River.

Surveyed areas for Coho Salmon include: Egegik River rapids, Stream 115.8 (Featherly Cr.), Stream 107.6 (Burl's Creek), Stream 90.3 (Salmon Cr.), Stream 89.8, Stream 87.0 (Bear Cr.), Stream 73.5 (Becharof Cr.) Stream 48.1 (Kejulik River), and Gertrude Creek.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	target spec
Coho		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	target spec
Chum		adult	anadromous	wild stock	target spec

Contacts:

Project Leader Keith Weiland Area Management Biologist keith_weiland@fishgame.state.ak.us
 ADF&G Commercial Fisheries Anchorage AK (907) 267-2229

Agencies associated with this Data Set:

Lead Agency Alaska Department of Fish & Game Commercial Fisheries (907) 246-3341
 P.O. Box 37 King Salmon AK 99613

Collaborating Agen U.S. Fish & Wildlife Service Unknown
 Unknown

DDAP Category ID Objective

ABUNDANCE A5 Relative estimate (index) for adult spawners
 DISTRIBUTION DT9 Spawning ground distribution

Data are kept at agcy.

Data are reported As resources permit

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Data available via hardcopy

References:

Glick, B., K. Weiland, J. Browning, & S. Morstad. Februa
Salmon Spawning Ground Surveys in the Bristol Bay Area, Alaska, 1999. Alaska Department of Fish
and Game, Division of Commercial Fisheries, Anchorage. Regional Information Report No. 2A00-04

Egegik River Tower

2332

Category: Escapement *Visual count method from a tower or structure located over stream banks.*
Method: Tower

Anad. Water No.: 322-10-10080
Management Area: Bristol Bay
District: Egegik District
Site Selct Method: Geographic features

Years Data Collected: 1957 to current
Years with no data: continuous
Sampling Frequency daily
Check if project is On-Going

WebSite: <http://www.cf.adfg.state.ak.us/region2/finfish/salmon/bbayhome.php>

DBFormat: Excel Table
DataQuality Good

Sampling Location Shapefile: EscSites_Loc

Monitoring Tier Assignment: MT-1

Area of Inference

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

Counting towers are operated on both banks of the Egegik River below Becharof Lake to visually estimate the magnitude of the sockeye salmon escapement into the drainage. The towers are typically operated from around the third week of June through mid to late July.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	incidental
Sockeye		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	incidental
Chum		adult	anadromous	wild stock	incidental

Contacts:

Project Leader Keith Weiland Area Management Biologist keith_weiland@fishgame.state.ak.us
 ADF&G Commercial Fisheries Anchorage AK (907) 267-2229

Agencies asociated with this Data Set:

Lead Agency Alaska Department of Fish & Game Commercial Fisheries (907) 246-3341
 P.O. Box 37 King Salmon AK 99613

DDAP Category	ID	Objective
ABUNDANCE	A6	True estimate for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV10	Adult run timing
DIVERSITY	DV6	Spawn timing

Data are kept at agcy.

Data are reported

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Routine request made via web and provided electronically

Data available via hardcopy

References:

Anderson, Cindy J., 1999.

Historic Counting Tower Projects in the Bristol Bay Area, 1955-1998. Alaska Department of Fish and Game, Commercial Fisheries, Anchorage. Regional Information Report No. 2A99-12.

Weiland, Morstad, Browning, Sands, Fair, & Crawford. 2

Bristol Bay 2002 Annual Management Report, ADF&G, Commercial Fisheries, Anchorage. RIR No. 2A03-18.

West, Fred, W., 2003.

Abundance, age, sex and size statistics for Pacific Salmon in Bristol Bay, 2002. Alaska Department of Fish and Game, Commercial Fisheries Division. RIR No. 2A03-23. Anchorage.

Gertrude Weir

2873

Category: Escapement *Visual count method at points of restricted passage*

Method: Weir/fence/screen/d

Anad. Water No.:

Management Area: Bristol Bay

District: Egegik District

Site Selct Method: Geographic features

Years Data Collected: 1997 to 1999

Years with no data:

Sampling Frequency daily

Check if project is On-Going

WebSite:

DBFormat: Unknown

DataQuality Good

Sampling Location Shapefile: EscSites_Loc

Area of Inference

Monitoring Tier Assignment: MT-2

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

The Gertrude weir was operated for three years. The weir was located approx. 300 meters above the mouth of Gertrude River. The project was designed to investigate rainbow trout, and was operated from ice out (late April) through September.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	target spec
Sockeye		adult	anadromous	wild stock	target spec
Coho		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	target spec
Chum		adult	anadromous	wild stock	target spec
Rainbow Tro		adult	anadromous	wild stock	target spec

Contacts:

Project Leader James Larson Project Leader ak_fisheries@fws.gov
USFWS King Salmon Field Office King Salmon AK (907) 246-3442

Agencies asociated with this Data Set:

Lead Agency U.S. Fish & Wildlife Service King Salmon Field Office (907) 246-3442
P.O. Box 277 King Salmon AK 99613 USA

Data are kept at agcy.

Data are reported As resources permit

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Data generally not available

Igushik River Tower

2409

Category: Escapement *Visual count method from a tower or structure located over stream banks.*
Method: Tower

Anad. Water No.: 325-10-10010
Management Area: Bristol Bay
District: Nushagak District
Site Selct Method: Geographic features

Years Data Collected: 1958 to current
Years with no data: none
Sampling Frequency daily
Check if project is On-Going

WebSite: <http://www.cf.adfg.state.ak.us/region2/finfish/salmon/bbayhome.php>

DBFormat: Excel Table
DataQuality Good

Sampling Location Shapefile: EscSites_Loc

Monitoring Tier Assignment: MT-1

Area of Inference

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

Counting towers are operated on both banks of the river to visually estimate the magnitude of the sockeye salmon escapement into the drainage. The towers are typically operated from around the third week of June through mid to late July.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	incidental
Sockeye		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	incidental
Chum		adult	anadromous	wild stock	incidental

Contacts:

Project Leader: Tim Sands^{*} Area Management Biologist im_sands@fishgame.state.ak.us
 ADF&G Commercial Fisheries Dillingham AK (907) 842-5227

Agencies asociated with this Data Set:

Lead Agency: Alaska Department of Fish & Game Commercial Fisheries (907) 842-5227
 P.O. Box 230 Dillingham AK 99576

DDAP Category	ID	Objective
ABUNDANCE	A6	True estimate for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV6	Spawn timing

Data are kept at agcy.

Data are reported

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Special request via email or letter & provided electronically

Data available via hardcopy

References:

Anderson, Cindy J., 1999.

Historic Counting Tower Projects in the Bristol Bay Area, 1955-1998. Alaska Department of Fish and Game, Commercial Fisheries, Anchorage. Regional Information Report No. 2A99-12.

Weiland, Morstad, Browning, Sands, Fair, & Crawford. 2

Bristol Bay 2002 Annual Management Report, ADF&G, Commercial Fisheries, Anchorage. RIR No. 2A03-18.

West, Fred, W., 2003.

Abundance, age, sex and size statistics for Pacific Salmon in Bristol Bay, 2002. Alaska Department of Fish and Game, Commercial Fisheries Division. RIR No. 2A03-23. Anchorage.

Kulukak River Salmon Tower

2883

Category: Escapement *Visual count method from a tower or structure located over stream banks.*

Method: Tower

Anad. Water No.:

Management Area: Bristol Bay

District: Togiak District

Site Selct Method: Geographic features

Years Data Collected: 1994 to 1996

Years with no data: none

Sampling Frequency daily

Check if project is On-Going

WebSite:

DBFormat: Unknown

DataQuality good

Sampling Location Shapefile: EscSites_Loc

Area of Inference

Monitoring Tier Assignment: MT-2

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

Abstract from Price & Larson. 1999.

A counting tower was used to estimate escapement and run timing of five species of salmon into the Kulukak River on Togiak National Wildlife Refuge from 1994-1996. Escapement estimates ranged from 1,032-2,487 for Chinook salmon *Oncorhynchus tshawytscha*, 11,970-34,482 for chum salmon *O. keta*, 10,404-13,503 for coho salmon *O. kisutch*, 1,194-12,687 for pink salmon *O. gorbuscha*, and 15,297-16,206 for sockeye salmon *O. nerka*. The Chinook, chum, and sockeye salmon runs peaked the first half of July, while pink salmon peaked in late July, and coho salmon peaked in late August to early September. The modal age (freshwater annuli . Ocean annuli) was 1.4 for Chinook, 0.3 in 1996 and 0.4 in 1994 and 1995 for chum, 2.1 for coho, and 1.3 for sockeye salmon. Compared with the tower escapement estimates for this river, aerial survey escapement estimates were as likely to over estimate as under estimate abundance.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	target spec
Sockeye		adult	anadromous	wild stock	target spec
Coho		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	target spec
Chum		adult	anadromous	wild stock	target spec

Contacts:

Project Leader	Mary Price	Fishery Biologist			
	USFWS	King Salmon Field Office	King Salmon	AK	
Supervisor	James Larson	Project Leader			
	USFWS	King Salmon Field Office	ak_fisheries@fws.gov	King Salmon	AK (907) 246-3442

Agencies asociated with this Data Set:

Lead Agency	U.S. Fish & Wildlife Service	King Salmon Field Office	(907) 246-3442
	P.O. Box 277	King Salmon	AK 99613 USA

DDAP Category	ID	Objective
ABUNDANCE	A5	Relative estimate (index) for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV10	Adult run timing
PRODUCTIVITY	P4	Age or size composition

Data are kept at agcy.

Data are reported

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Special request via email or letter & provided electronically

References:

Price, M.A., and J. Larson. 1999.

Abundance and run timing of chinook, chum, coho, pink, and sockeye salmon in the Kulukak River, Togiak National Wildlife Refuge, Alaska, 1994-1996. U.S. Fish and Wildlife Service, King Salmon Fishery Resource Office, Alaska Fisheries Technical Report 52, King Salmon, Alaska.

Kvichak River Tower

2489

Category: Escapement *Visual count method from a tower or structure located over stream banks.*

Method: Tower

Anad. Water No.: 324-10-10150

Management Area: Bristol Bay

District: Naknek/Kvichak District

Site Selct Method: Geographic features

Years Data Collected: 1955 to current

Years with no data: none

Sampling Frequency daily

Check if project is On-Going

WebSite:

DBFormat: Excel Table

DataQuality Good

Sampling Location Shapefile: EscSites_Loc

Area of Inference

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Monitoring Tier Assignment: MT-1

Description

Counting towers are operated on both banks of the river downstream of Igiugig to visually estimate the magnitude of the sockeye salmon escapement into the drainage. The tower is typically operated from around the third week in June through mid to late July.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	incidental
Sockeye		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	incidental
Chum		adult	anadromous	wild stock	incidental

Contacts:

Project Leader Slim Morstad N/K Area Management Biol
 ADF&G Commercial Fisheries King Salmon AK (907) 246-3341

Agencies associated with this Data Set:

Lead Agency Alaska Department of Fish & Game Commercial Fisheries (907) 246-3341
 P.O. Box 37 King Salmon AK 99613

DDAP Category	ID	Objective
ABUNDANCE	A4	True estimate of adult in river migrants
ABUNDANCE	A6	True estimate for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV10	Adult run timing

Data are kept at agcy.

Data are reported

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Data available via hardcopy

References:

Anderson, Cindy J., 1999.

Historic Counting Tower Projects in the Bristol Bay Area, 1955-1998. Alaska Department of Fish and Game, Commercial Fisheries, Anchorage. Regional Information Report No. 2A99-12.

Weiland, Morstad, Browning, Sands, Fair, & Crawford. 2

Bristol Bay 2002 Annual Management Report, ADF&G, Commercial Fisheries, Anchorage. RIR No. 2A03-18.

West, Fred, W., 2003.

Abundance, age, sex and size statistics for Pacific Salmon in Bristol Bay, 2002. Alaska Department of Fish and Game, Commercial Fisheries Division. RIR No. 2A03-23. Anchorage.

Naknek River Tower

2576

Category: Escapement *Visual count method from a tower or structure located over stream banks.*

Method: Tower

Anad. Water No.: 324-20-10140

Management Area: Bristol Bay

District: Naknek/Kvichak District

Site Selct Method: Geographic features

Years Data Collected: 1958 to current

Years with no data: none

Sampling Frequency daily

Check if project is On-Going

WebSite:

DBFormat: Excel Table

DataQuality Good

Sampling Location Shapefile: EscSites_Loc

Area of Inference

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Monitoring Tier Assignment: MT-1

Description

Counting towers are operated on both banks of the river above King Salmon to visually estimate the magnitude of the sockeye salmon escapement into the drainage. The towers are typically operated from around mid June through mid to late July.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	incidental
Sockeye		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	incidental
Chum		adult	anadromous	wild stock	incidental

Contacts:

Project Leader Slim Morstad N/K Area Management Biol
 ADF&G Commercial Fisheries King Salmon AK (907) 246-3341

Agencies asociated with this Data Set:

Lead Agency Alaska Department of Fish & Game Commercial Fisheries (907) 246-3341
 P.O. Box 37 King Salmon AK 99613

DDAP Category	ID	Objective
ABUNDANCE	A6	True estimate for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV10	Adult run timing

Data are kept at agcy.
<i>Data are reported</i>
Check if Meta Data are available: <input type="checkbox"/>
Check if Charge Money for Data: <input type="checkbox"/>

Data may be accessed as follows:

- Special request via email or letter & provided electronically
- Data available via hardcopy

References:

Anderson, Cindy J., 1999.
Historic Counting Tower Projects in the Bristol Bay Area, 1955-1998. Alaska Department of Fish and Game, Commercial Fisheries, Anchorage. Regional Information Report No. 2A99-12.

Weiland, Morstad, Browning, Sands, Fair, & Crawford. 2
Bristol Bay 2002 Annual Management Report, ADF&G, Commercial Fisheries, Anchorage. RIR No. 2A03-18.

West, Fred, W., 2003.
Abundance, age, sex and size statistics for Pacific Salmon in Bristol Bay, 2002. Alaska Department of Fish and Game, Commercial Fisheries Division. RIR No. 2A03-23. Anchorage.

Naknek River Weir

2871

Category: Escapement *Visual count method at points of restricted passage*

Method: Weir/fence/screen/d

Anad. Water No.:

Management Area: Bristol Bay

District: Naknek/Kvichak District

Site Selct Method: Geographic features

Years Data Collected: 1929 to 1957

Years with no data: 1933-49

Sampling Frequency daily

Check if project is On-Going

WebSite:

DBFormat: Unknown

DataQuality Good

Sampling Location Shapefile: EscSites_Loc

Area of Inference

Monitoring Tier Assignment: MT-1

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

From Table 3. of Glick 2000. Project was operated prior to statehood. Weir location unknown.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	target spec

Contacts:

Supervisor Lowell Fair Bristol Bay Research Projec
ADF&G Commercial Fisheries Anchorage AK

Agencies asociated with this Data Set:

Lead Agency Alaska Department of Fish & Game Commercial Fisheries (907) 246-3341
P.O. Box 37 King Salmon AK 99613

DDAP Category	ID	Objective
ABUNDANCE	A3	Relative abundance estimate for adult in river
DISTRIBUTION	DT7	Points of adult passage in river

Data are

Data are reported As resources permit

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Data available via hardcopy

References:

Glick, B., K. Weiland, J. Browning, & S. Morstad. Februa
Salmon Spawning Ground Surveys in the Bristol Bay Area, Alaska, 1999. Alaska Department of Fish
and Game, Division of Commercial Fisheries, Anchorage. Regional Information Report No. 2A00-04

Naknek/Kvichak Aerial Surveys

2870

Category: Escapement *Visual fish counts obtained from over flights by airplane or helicopter.*
Method: Aerial Survey

Anad. Water No.:

Management Area: Bristol Bay

District: Naknek/Kvichak District

Site Selct Method: Geographic features

Years Data Collected: 1971 to ongoing

Years with no data: none

Sampling Frequency 1 - 2 time /year

Check if project is On-Going

WebSite:

DBFormat: Excel Table

DataQuality poor

Sampling Location Shapefile: AerialSvy_Loc

Area of Inference

Monitoring Tier Assignment: MT-3

Line Geometry Shapefile: AerialSvy_LAI

Polygon Geometry Shapefile: AerialSurvey_PA1

Description

Survey flights are conducted from small fixed wing aircraft (Super Cub, Cessna 185, or Cessna 206) or a helicopter (Robertson R-22). Surveys are flown during late summer and fall to assess escapements of sockeye, Chinook and chum salmon in portions of the Naknek/Kvichak District. Salmon counts for these drainages are indices of the total number of each species present in the spawning area at the time of the survey.

Surveyed areas include: Main stem Naknek River, Paul's Creek, King Salmon Creek, Big Creek, Alagnak and Kvichak.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	target spec
Sockeye		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	incidental
Chum		adult	anadromous	wild stock	target spec

Contacts:

Project Leader Slim Morstad N/K Area Management Biol
 ADF&G Commercial Fisheries King Salmon AK (907) 246-3341

Agencies associated with this Data Set:

Lead Agency Alaska Department of Fish & Game Commercial Fisheries (907) 842-5227
 P.O. Box 230 Dillingham AK 99576

Lead Agency Alaska Department of Fish & Game Commercial Fisheries (907) 842-5227
 P.O. Box 230 Dillingham AK 99576

DDAP Category	ID	Objective
ABUNDANCE	A5	Relative estimate (index) for adult spawners
DISTRIBUTION	DT9	Spawning ground distribution
DIVERSITY	DV10	Adult run timing

Data are kept at agcy.

Data are reported As resources permit

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Special request via email or letter & provided electronically

Data available via hardcopy

References:

Glick, B., K. Weiland, J. Browning, & S. Morstad. February

Salmon Spawning Ground Surveys in the Bristol Bay Area, Alaska, 1999. Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage. Regional Information Report No. 2A00-04

Weiland, Morstad, Browning, Sands, Fair, & Crawford. 2

Bristol Bay 2002 Annual Management Report, ADF&G, Commercial Fisheries, Anchorage. RIR No. 2A03-18.

Newhalen River Counting Tower

2903

Category: Escapement *Visual count method from a tower or structure located over stream banks.*
Method: Tower

Anad. Water No.:

Management Area: Bristol Bay

District: Naknek/Kvichak District

Site Selct Method: Geographic features

Years Data Collected: 1980 to current

Years with no data: 1985-1999

Sampling Frequency daily

Check if project is On-Going

WebSite: http://www.absc.usgs.gov/research/Fisheries/Lake_Clark/overview4.htm

DBFormat: Excel Table

DataQuality good

Sampling Location Shapefile: EscSites_Loc

Area of Inference

Monitoring Tier Assignment: MT-2

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

Tower project was operated by FRI from 1980 - 1984. USGS, NPS and OSM cooperate in operation of the Tower from 2000 - 2004.

Estimates of the number of fish that run into Lake Clark are made by capitalizing on their tendency to migrate upstream near riverbanks. Because water flow is reduced along the banks due to friction, fish save energy needed for spawning by swimming near shore. We are able to get good estimates of the daily migration by counting fish from towers as they pass. Collection of age and size data give insight into population trends. Hydrologic monitoring has revealed that flows over 27,000 cfs impede fish passage at a falls on the lower river.

Species	Race	Life Stage	Form	Production	Target
Sockeye		adult	anadromous	wild stock	target spec

Contacts:

Project Leader	Carol Ann Woody	Research Biologist	;arol_woody@usgs.gov		
	NPS	Alaska Science Center	Anchorage	AK	(907) 786-3314
Co-Leader	Dan Young	Graduate Student			
	NPS	Alaska Science Center	Anchorage	AK	

Agencies associated with this Data Set:

Lead Agency	National Park Service	Alaska Science Center			
	1011 E. Tudor Rd.,	Anchorage	AK	99503	USA
Lead Agency	U. S. Geological Survey Biological Research Division	Biological Research Division			
	4230 University Drive	Anchorage	AK	99508	USA
Lead Agency	Office of Subsistence Management		(907) 786-3864		
	3601 C. Street, Suite	Anchorage	AK	99503	USA

DDAP Category	ID	Objective
ABUNDANCE	A6	True estimate for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river

Data are kept at agcy.

Data are reported Annually

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Special request via email or letter & provided electronically

References:

Woody, C.A., 2004.

Population monitoring of Lake Clark and Tazimina River sockeye salmon, Kvichak River watershed, Bristol Bay, Alaska, 2000-2003. Final Report for Study 01-095. U.S. Geological Survey, Anchorage, AK. 50 pp.

Woody, C.A., K.M. Ramstad, D.B. Young, G.K. Sage & F

Lake Clark sockeye salmon population assessment. Submitted to U.S. Fish and Wildlife Service, Office of Subsistence Management, Fisheries Resource Monitoring Program. USGS-BRD Final Report No. FIS 00-042.

Young, D. B., 2004.

The migration and spawning distribution of sockeye salmon within Lake Clark, Alaska. Masters Thesis. University of Alaska Fairbanks, Fairbanks, Alaska. 82 pp.

Nushagak River Sonar

2609

Category: Escapement *Count method using acoustic technique (e.g. single beam, dual beam, split beam, multi-beam) .*
Method: Sonar

Anad. Water No.: 325-30-10100
Management Area: Bristol Bay
District: Nushagak District
Site Selct Method: Geographic features

Years Data Collected:	1980 to current
Years with no data:	NONE
Sampling Frequency	daily
Check if project is On-Going	<input checked="" type="checkbox"/>

WebSite: <http://www.cf.adfg.state.ak.us/region2/finfish/salmon/bbayhome.php>

DBFormat: Excel Table

DataQuality Good

Sampling Location Shapefile: EscSites_Loc

Area of Inference

Monitoring Tier Assignment: MT-1

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

Side scanning sonar fish counters are operated on both banks of the Nushagak River below Portage Creek to visually estimate the magnitude of the sockeye salmon escapement into the drainage. Estimates are also made for Chinook and coho salmon, using a test gill net catches to apportion species. The project is typically operated from mid June through mid to late July.

Species	Race	Life Stage	Form	Production	Target
Chinook	summer run	spawned adult	anadromous	mixed wild & hatchery	target spec
Sockeye	early run	adult	resident	wild stock	incidental
Coho	winter run	adult	anadromous	wild stock	incidental
Chum	winter run	adult		wild stock	target spec
Steelhead	spring run	adult	resident	wild stock	target spec

Contacts:

Supervisor	Lowell Fair	Bristol Bay Research Projec		
	ADF&G Commercial Fisheries		Anchorage	AK
	Jim Edmundson	Limnologist		im_edmundson@fishgame.state.ak.us
	ADF&G Commercial Fisheries		Soldotna	AK (907) 262-9368

Agencies associated with this Data Set:

Lead Agency	Alaska Department of Fish & Game	Commercial Fisheries	(907) 842-5227
	P.O. Box 230	Dillingham	AK 99576

DDAP Category	ID	Objective
ABUNDANCE	A3	Relative abundance estimate for adult in river
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV10	Adult run timing
DIVERSITY	DV6	Spawn timing

Data are kept at agcy.

Data are reported Annually

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Viewable on web

Special request via email or letter & provided electronically

Data available via hardcopy

References:

McKinley, Lee, 2003.

Sonar enumeration of Pacific salmon escapement into the Nushagak River, 2002. Alaska Department of Fish and Game, Commercial Fisheries Division, RIR No. 2A03-05. Anchorage.

Weiland, Morstad, Browning, Sands, Fair, & Crawford. 2

Bristol Bay 2002 Annual Management Report, ADF&G, Commercial Fisheries, Anchorage. RIR No. 2A03-18.

Nushagak/Mulchatna/Wood aerial surveys

2880

Category: Escapement *Visual fish counts obtained from over flights by airplane or helicopter.*
Method: Aerial Survey

Anad. Water No.:

Management Area: Bristol Bay

District: Nushagak District

Site Selct Method: Geographic features

Years Data Collected: 1967 to current

Years with no data: 1991-94, 1996

Sampling Frequency 1 - 2 flights per year

Check if project is On-Going

WebSite:

DBFormat: Unknown

DataQuality poor

Sampling Location Shapefile: AerialSvy_Loc

Area of Inference

Monitoring Tier Assignment: MT-3

Line Geometry Shapefile: AerialSvy_LAI

Polygon Geometry Shapefile: AerialSurvey_PA

Description

Aerial Surveys are flown in the Nushagak, Mulchatna and Wood River (Muklung) drainages to assess abundance and distribution of Chinook Salmon spawners.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	target spec

Contacts:

Project Leader	Jason Dye	Area Management Biologist	ason_dye@fishgame.state.ak.us
	ADF&G Sport Fish	Dillingham	AK (907) 842-2427
Project Leader	Dan Dunaway	Area Management Biologist	
	ADF&G Sport Fish	Dillingham	AK

Agencies asociated with this Data Set:

Lead Agency	Alaska Department of Fish & Game	Sport Fish	(907) 842-2427
	546 Kenny Wren R	Dillingham	AK 99576 USA

DDAP Category	ID	Objective
ABUNDANCE	A5	Relative estimate (index) for adult spawners
DISTRIBUTION	DT9	Spawning ground distribution
DIVERSITY	DV10	Adult run timing

Data are kept at agcy.

Data are reported As resources permit

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Data available via hardcopy

Data generally not available

References:

Dunaway, D.O., & S. Sonnichsen. 2001.

Area Management Report for the Recreational Fisheries of the Southwest Alaska Sport Fish Management Area, 1999. Alaska Department of Fish and Game, Division of Sport Fish. Fishery Management Report No. 01-6. Anchorage.

Glick, B., K. Weiland, J. Browning, & S. Morstad. Februa

Salmon Spawning Ground Surveys in the Bristol Bay Area, Alaska, 1999. Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage. Regional Information Report No. 2A00-04

Nelson, M.L. 1967.

Red salmon spawning ground surveys in the Nushagak and Togiak Districts of Bristol Bay, 1966. Alaska Department of Fish and Game, Division of Commercial Fisheries, Informational Leaflet 96. Juneau.

Nuyakuk River Tower

2610

Category: Escapement *Visual count method from a tower or structure located over stream banks.*

Method: Tower

Anad. Water No.: 325-30-10100-2249

Management Area: Bristol Bay

District: Nushagak District

Site Selct Method: Geographic features

Years Data Collected: 1959 to current

Years with no data: 1989-1991

Sampling Frequency daily

Check if project is On-Going

WebSite:

DBFormat: Excel Table

DataQuality Excellent

Sampling Location Shapefile: EscSites_Loc

Area of Inference

Monitoring Tier Assignment: MT-1

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

Counting towers are operated on both banks of the river below Tikchik Lake to visually estimate the magnitude of the sockeye salmon escapement into the drainage. The towers are typically operated from around the third week of June through mid to late July.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	incidental
Sockeye		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	incidental
Chum		adult	anadromous	wild stock	incidental

Contacts:

Supervisor Tim Sands Area Management Biologist
ADF&G Commercial Fisheries Dillingham AK

Agencies asociated with this Data Set:

Lead Agency Alaska Department of Fish & Game Commercial Fisheries (907) 842-5227
P.O. Box 230 Dillingham AK 99576

DDAP Category	ID	Objective
ABUNDANCE	A6	True estimate for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV6	Spawn timing

Data are kept at agcy.

Data are reported Annually

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Viewable on web

Special request via email or letter & provided electronically

Data available via hardcopy

References:

Anderson, Cindy J., 1999.

Historic Counting Tower Projects in the Bristol Bay Area, 1955-1998. Alaska Department of Fish and Game, Commercial Fisheries, Anchorage. Regional Information Report No. 2A99-12.

Weiland, Morstad, Browning, Sands, Fair, & Crawford. 2

Bristol Bay 2002 Annual Management Report, ADF&G, Commercial Fisheries, Anchorage. RIR No. 2A03-18.

West, Fred, W., 2003.

Abundance, age, sex and size statistics for Pacific Salmon in Bristol Bay, 2002. Alaska Department of Fish and Game, Commercial Fisheries Division. RIR No. 2A03-23. Anchorage.

Ongiginuk River Video Assessment

2885

Category: Escapement *Visual count method aided by use of video recordings*

Method: Video

Anad. Water No.:

Management Area: Bristol Bay

District: Togiak District

Site Selct Method: Geographic features

Years Data Collected: 2001 to 2002

Years with no data:

Sampling Frequency daily - partial season

Check if project is On-Going

WebSite:

DBFormat: Unknown

DataQuality poor

Sampling Location Shapefile: EscSites_Loc

Area of Inference

Monitoring Tier Assignment: MT-2

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

From Hetrick, N.J., K.M. Simms, M.P. Plumb, and J. P. Larson. 2004.

As an alternative, we assessed the use of video technology for monitoring salmon runs in clear-water tributaries of the Togiak River, which could be used to index escapement for the entire drainage. In this two-year feasibility study, digital video recording equipment, above- and underwater cameras, and a remote power system were operated on the Ongivinuk River, a tributary of the Togiak River. Tests were conducted to determine optimal camera placement, field-of-view width, and lighting based on image quality and performance of motion detection processing. We also tested the hypothesis that upstream migrant salmon would avoid swimming over white substrate panels, as a possible method for concentrating fish passage into narrow sections of the channel. Image quality of above-water cameras and performance of the motion detection algorithm increased as the field-of-view width decreased. Motion detection processing was more effective when fish were viewed from the side than from the front. We were able to successfully count salmon at night with the aid of artificial light, but species could only be identified from underwater camera images. A V-shaped panel formation was successful at redirecting a portion of upstream migrant coho salmon O. kisutch through a gap located at its apex, within the view of an underwater camera. Accuracy of estimates could be increased by refining the technology used to count fish at night. Improvements in the motion detection algorithm we used or a substitute method of electronically discriminating fish passage is needed to minimize the amount of video collected when monitoring continuously. In addition, field-of-view width of above-water cameras should be limited to less than 10 m to improve image quality, as needed to correctly identify species of adult salmon. We concluded that with these refinements, estimating salmon escapement in clear-water tributaries of the Togiak River using video technology is feasible.

Species	Race	Life Stage	Form	Production	Target
Sockeye		adult	anadromous	wild stock	target spec
Coho		adult	anadromous	wild stock	target spec

Contacts:

Project Leader	Nicholas Hetrick	Fishery Biologist		
	USFWS King Salmon Field Office		King Salmon	AK
Supervisor	James Larson	Project Leader		ak_fisheries@fws.gov
	USFWS King Salmon Field Office		King Salmon	AK (907) 246-3442

Agencies asociated with this Data Set:

Lead Agency	U.S. Fish & Wildlife Service	King Salmon Field Office	(907) 246-3442
	P.O. Box 277	King Salmon	AK 99613 USA

DDAP Category	ID	Objective
ABUNDANCE	A5	Relative estimate (index) for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV10	Adult run timing

Data are

Data are reported

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Special request via email or letter & provided electronically

References:

Hetrick, N.J., K.M. Simms, M.P. Plumb, and J. P. Larson

Feasibility of using video technology to estimate salmon escapement in the Ongiginuk River, a clearwater tributary of the Togiak River. U. S. Fish and Wildlife Service, King Salmon Fish and Wildlife Field Office, Alaska Fisheries Technical Report Number 72, King Salmon, Alaska.

Snake River Tower

2869

Category: Escapement *Visual count method from a tower or structure located over stream banks.*

Method: Tower

Anad. Water No.: 325-20-10030

Management Area: Bristol Bay

District: Nushagak District

Site Selct Method: Geographic features

Years Data Collected: 1960 to 1973

Years with no data:

Sampling Frequency daily

Check if project is On-Going

WebSite:

DBFormat: Unknown

DataQuality Good

Sampling Location Shapefile: EscSites_Loc

Monitoring Tier Assignment: MT-2

Area of Inference

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

Species	Race	Life Stage	Form	Production	Target
Sockeye		adult	anadromous	wild stock	target spec

Contacts:

Supervisor Lowell Fair Bristol Bay Research Projec
ADF&G Commercial Fisheries Anchorage AK

Agencies asociated with this Data Set:

Lead Agency Alaska Department of Fish & Game Commercial Fisheries (907) 842-5227
P.O. Box 230 Dillingham AK 99576

DDAP Category	ID	Objective
ABUNDANCE	A6	True estimate for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV6	Spawn timing

Data are kept at agcy.

Data are reported As resources permit

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Data available via hardcopy

References:

Anderson, Cindy J., 1999.

Historic Counting Tower Projects in the Bristol Bay Area, 1955-1998. Alaska Department of Fish and Game, Commercial Fisheries, Anchorage. Regional Information Report No. 2A99-12.

Togiak District Aerial Surveys

2881

Category: Escapement *Visual fish counts obtained from over flights by airplane or helicopter.*
Method: Aerial Survey

Anad. Water No.:

Management Area: Bristol Bay

District: Togiak District

Site Selct Method: Geographic features

Years Data Collected: 1979 to current

Years with no data:

Sampling Frequency 1 - 2 x / year

Check if project is On-Going

WebSite:

DBFormat: Unknown

DataQuality poor

Sampling Location Shapefile: AerialSvy_Loc

Area of Inference

Monitoring Tier Assignment: MT-3

Line Geometry Shapefile: AerialSvy_LAI

Polygon Geometry Shapefile: AerialSurvey_PA1

Description

Survey flights are conducted from small fixed wing aircraft (Super Cub, Cessna 185, or Cessna 206) or a helicopter (Robertson R-22). Surveys are flown during late summer and fall to assess escapement distribution of sockeye, Chinook, chum and coho salmon in key drainages of the Togiak District. Salmon counts are indices of the total number present in the spawning area at the time of the survey.

Surveyed areas are depicted in the associated shape file.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	target spec
Sockeye		adult	anadromous	wild stock	target spec
Coho		adult	anadromous	wild stock	target spec
Chum		adult	anadromous	wild stock	target spec

Contacts:

Project Leader	Tim Sands	Area Management Biologist			
	ADF&G Commercial Fisheries		Dillingham	AK	
Co-Leader	Jason Dye	Area Management Biologist	ason_dye@fishgame.state.ak.us		
	ADF&G Sport Fish		Dillingham	AK	(907) 842-2427

Agencies asociated with this Data Set:

Lead Agency	Alaska Department of Fish & Game	Commercial Fisheries	(907) 842-5227
	P.O. Box 230	Dillingham	AK 99576
Lead Agency	Alaska Department of Fish & Game	Sport Fish	(907) 842-2427
	546 Kenny Wren R	Dillingham	AK 99576 USA

DDAP Category	ID	Objective
ABUNDANCE	A5	Relative estimate (index) for adult spawners
DISTRIBUTION	DT9	Spawning ground distribution
DIVERSITY	DV10	Adult run timing

Data are kept at agcy.

Data are reported As resources permit

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Data available via hardcopy

Data generally not available

References:

Bucher, W. A. 1981.

Spawning Ground surveys in the Nushagak and Togiak Districts of Bristol Bay, 1980. Alaska Department of Fish and Game, Division of Commercial Fisheries, Bristol Bay Data Report 81, Anchorage.

Dunaway, D.O., & S. Sonnichsen. 2001.

Area Management Report for the Recreational Fisheries of the Southwest Alaska Sport Fish Management Area, 1999. Alaska Department of Fish and Game, Division of Sport Fish. Fishery Management Report No. 01-6. Anchorage.

Glick, B., K. Weiland, J. Browning, & S. Morstad. Februa

Salmon Spawning Ground Surveys in the Bristol Bay Area, Alaska, 1999. Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage. Regional Information Report No. 2A00-04

Togiak River Sonar

2884

Category: Escapement *Count method using acoustic technique (e.g. single beam, dual beam, split beam, multi-beam) .*
Method: Sonar

Anad. Water No.:

Management Area: Bristol Bay

District: Togiak District

Site Selct Method: Geographic features

Years Data Collected: 1988 to 1990

Years with no data: none

Sampling Frequency daily

Check if project is On-Going

WebSite:

DBFormat: Unknown

DataQuality poor

Sampling Location Shapefile: EscSites_Loc

Area of Inference

Monitoring Tier Assignment: MT-1

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

From Irving, Finn & Larson. 1995.

A three year study began in 1987 to test the feasibility of using sonar in the Togiak River to estimate salmon escapements. In 1987, sonar was used to select optimal sites and enumerate coho salmon. In 1988 and 1990, the sites identified in 1987 were used to estimate the escapement of five salmon species. Sockeye salmon escapement was estimated at 512,581 and 589,321, Chinook at 7,698 and 15,098, chum at 246,144 and 134,958, coho at 78,588 and 28,290, and pink at 96,167 and 131,484. Sonar estimates of sockeye salmon were two to three times the Alaska Department of Fish and Game's escapement estimate based on aerial surveys and tower counts. The source of error was probably a combination of over-estimating the total number of targets counted by the sonar and by incorrectly estimating species composition. Total salmon escapement estimates using sonar may be feasible but several more years of development are needed.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	target spec
Sockeye		adult	anadromous	wild stock	target spec
Coho		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	target spec
Chum		adult	anadromous	wild stock	target spec

Contacts:

Project Leader David Irving Fishery Biologist
 USFWS King Salmon Field Office King Salmon AK

Supervisor James Larson Project Leader ak_fisheries@fws.gov
 USFWS King Salmon Field Office King Salmon AK (907) 246-3442

Agencies associated with this Data Set:

Lead Agency U.S. Fish & Wildlife Service King Salmon Field Office (907) 246-3442
 P.O. Box 277 King Salmon AK 99613 USA

DDAP Category	ID	Objective
ABUNDANCE	A5	Relative estimate (index) for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV10	Adult run timing

Data are kept at agcy.

Data are reported

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Special request via email or letter & provided electronically

Data available via hardcopy

References:

Irving, D.B., J.E. Finn, and J.P. Larson. 1995.

Salmon escapement estimates into the Togiak River using sonar, Togiak National Wildlife Refuge, Alaska, 1987, 1988, and 1990. U.S. Fish and Wildlife Service, Alaska Fisheries Technical Report Number 31, King Salmon, Alaska.

Togiak River Tower

2785

Category: Escapement *Visual count method from a tower or structure located over stream banks.*
Method: Tower

Anad. Water No.: 326-00-10400
Management Area: Bristol Bay
District: Togiak District
Site Selct Method: Geographic features

Years Data Collected:	1960 to current
Years with no data:	none
Sampling Frequency	daily
Check if project is On-Going	<input checked="" type="checkbox"/>

WebSite: <http://www.cf.adfg.state.ak.us/region2/finfish/salmon/bbayhome.php>

DBFormat: Excel Table

DataQuality Good

Sampling Location Shapefile: EscSites_Loc

Area of Inference

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Monitoring Tier Assignment: MT-1

Description

Counting towers are operated on both banks of the Togiak River below Togiak Lake, to visually estimate the magnitude of the sockeye salmon escapement into the drainage. The towers are typically operated from around the end of June through ate July or early August.

Species	Race	Life Stage	Form	Production	Target
Sockeye		adult	anadromous	wild stock	target spec

Contacts:

Tim Sands Area Management Biologist
 ADF&G Commercial Fisheries Dillingham AK

Agencies asociated with this Data Set:

Alaska Department of Fish & Game Comm Fish - Gene Conser(907) 267-2247
 333 Raspberry Rd. Anchorage AK 99518

DDAP Category	ID	Objective
ABUNDANCE	A6	True estimate for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV6	Spawn timing

Data are kept at agcy.	Annually
<i>Data are reported</i>	
<i>Check if Meta Data are available:</i>	<input type="checkbox"/>
<i>Check if Charge Money for Data:</i>	<input type="checkbox"/>

Data may be accessed as follows:

- Viewable on web
- Special request via email or letter & provided electronically
- Data available via hardcopy

References:

Anderson, Cindy J., 1999.
Historic Counting Tower Projects in the Bristol Bay Area, 1955-1998. Alaska Department of Fish and Game, Commercial Fisheries, Anchorage. Regional Information Report No. 2A99-12.

Weiland, Morstad, Browning, Sands, Fair, & Crawford. 2
Bristol Bay 2002 Annual Management Report, ADF&G, Commercial Fisheries, Anchorage. RIR No. 2A03-18.

West, Fred, W., 2003.
Abundance, age, sex and size statistics for Pacific Salmon in Bristol Bay, 2002. Alaska Department of Fish and Game, Commercial Fisheries Division. RIR No. 2A03-23. Anchorage.

Ugashik District Aerial Surveys

2878

Category: Escapement *Visual fish counts obtained from over flights by airplane or helicopter.*
Method: Aerial Survey

Anad. Water No.:

Management Area: Bristol Bay

District: Ugashik District

Site Selct Method: Geographic features

Years Data Collected: 1980 to current

Years with no data:

Sampling Frequency 1 - 2 x/season

Check if project is On-Going

WebSite:

DBFormat: Unknown

DataQuality poor

Sampling Location Shapefile: AerialSvy_Loc

Area of Inference

Monitoring Tier Assignment: MT-3

Line Geometry Shapefile: AerialSvy_LAI

Polygon Geometry Shapefile: AerialSurvey_PA1

Description

Survey flights are conducted from small fixed wing aircraft (Super Cub, Cessna 185, or Cessna 206) or a helicopter (Robertson R-22). Surveys are flown during late summer and fall to assess escapements of sockeye, Chinook, chum and coho salmon in tributaries flowing into the Ugashik District. Salmon counts for these drainages are indices of the total number of each species present in the spawning area at the time of the survey.

Surveyed areas include: Main stem Ugashik River, Dog Salmon River, King Salmon River, Painter Creek, Pumice Creek, Old Creek and Grassy Creek.

Coho salmon streams flowing into Ugashik Lakes include: Crooked Cr., Deer Cr., and Black Cr.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	target spec
Sockeye		adult	anadromous	wild stock	target spec
Coho		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	incidental
Chum		adult	anadromous	wild stock	target spec

Contacts:

Project Leader Keith Weiland Area Management Biologist (eith_weiland@fishgame.state.ak.us
 ADF&G Commercial Fisheries Anchorage AK (907) 267-2229

Agencies asociated with this Data Set:

Lead Agency Alaska Department of Fish & Game Commercial Fisheries (907) 267-2104
 333 Raspberry Rd. Anchorage AK 99518

DDAP Category	ID	Objective
ABUNDANCE	A5	Relative estimate (index) for adult spawners
DISTRIBUTION	DT9	Spawning ground distribution
DIVERSITY	DV10	Adult run timing

Data are kept at agcy.
Data are reported
Check if Meta Data are available: <input type="checkbox"/>
Check if Charge Money for Data: <input type="checkbox"/>

Data may be accessed as follows:

Data available via hardcopy

References:

Glick, B., K. Weiland, J. Browning, & S. Morstad. Februa
Salmon Spawning Ground Surveys in the Bristol Bay Area, Alaska, 1999. Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage. Regional Information Report No. 2A00-04

Weiland, Morstad, Browning, Sands, Fair, & Crawford. 2
Bristol Bay 2002 Annual Management Report, ADF&G, Commercial Fisheries, Anchorage. RIR No. 2A03-18.

Ugashik River Tower

2809

Category: Escapement *Visual count method from a tower or structure located over stream banks.*
Method: Tower

Anad. Water No.: 322-10-10080
Management Area: Bristol Bay
District: Ugashik District
Site Selct Method: Geographic features

Years Data Collected: 1957 to current
Years with no data: continuous
Sampling Frequency daily
Check if project is On-Going

WebSite: <http://www.cf.adfg.state.ak.us/region2/finfish/salmon/bbayhome.php>

DBFormat: Excel Table
DataQuality Good
Sampling Location Shapefile: EscSites_Loc

Monitoring Tier Assignment: MT-1
Area of Inference
Line Geometry Shapefile: EscSites_LAI
Polygon Geometry Shapefile: EscSites_PAI

Description

Counting towers are operated on both banks of the Ugashik River below Lower Ugashik Lake to visually estimate the magnitude of the sockeye salmon escapement into the drainage. The towers are typically operated from late June through mid to late July.

From 2001 - 2003 the USFWS extended operations of the tower to enumerated coho salmon escapement. Counting operations were conducted from mid-July to late-September each year using the standard Alaska Department of Fish and Game counting tower protocols. Escapement was estimated at 3,606 in 2001, 17,730 in 2002, and 28,212 in 2003. A total of 297 coho salmon were sampled for age, sex, and length data.

Species	Race	Life Stage	Form	Production	Target
Chinook		adult	anadromous	wild stock	incidental
Sockeye		adult	anadromous	wild stock	target spec
Coho		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	incidental
Chum		adult	anadromous	wild stock	incidental

Contacts:

Supervisor	Lowell Fair	Bristol Bay Research Projec			
	ADF&G	Commercial Fisheries	Anchorage	AK	
Co-Leader	Michael Edwards	Fishery Biologist			
	USFWS	King Salmon Field Office	King Salmon	AK	

Agencies associated with this Data Set:

Lead Agency	Alaska Department of Fish & Game	Commercial Fisheries	(907) 246-3341
	P.O. Box 37	King Salmon AK 99613	
Co-investigating Ag	U.S. Fish & Wildlife Service	King Salmon Field Office	(907) 246-3442
	P.O. Box 277	King Salmon AK 99613	USA

DDAP Category	ID	Objective
ABUNDANCE	A4	True estimate of adult in river migrants
ABUNDANCE	A6	True estimate for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV10	Adult run timing
DIVERSITY	DV6	Spawn timing

Data are kept at agcy.

Data are reported

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Special request via email or letter & provided electronically

Data available via hardcopy

References:

Anderson, Cindy J., 1999.

Historic Counting Tower Projects in the Bristol Bay Area, 1955-1998. Alaska Department of Fish and Game, Commercial Fisheries, Anchorage. Regional Information Report No. 2A99-12.

Edwards, M. R., and J. P. Larson. 2002

Estimation of coho salmon escapement in the Ugashik lakes, Alaska Peninsula National Wildlife Refuge, Alaska, 2001. Alaska Fisheries Data Series Number 2002-4. U.S. Fish and Wildlife Service, King Salmon, Alaska.

Edwards, M. R., and J. P. Larson. 2004.

Estimation of coho salmon escapement in the Ugashik lakes, Alaska Peninsula National Wildlife Refuge, Alaska, 2001-2003. U.S. Fish and Wildlife Service, King Salmon Fish and Wildlife Field Office, Alaska Fisheries Technical Report Number 69, King Salmon, Alaska.

Weiland, Morstad, Browning, Sands, Fair, & Crawford. 2

Bristol Bay 2002 Annual Management Report, ADF&G, Commercial Fisheries, Anchorage. RIR No. 2A03-18.

West, Fred, W., 2003.

Abundance, age, sex and size statistics for Pacific Salmon in Bristol Bay, 2002. Alaska Department of Fish and Game, Commercial Fisheries Division. RIR No. 2A03-23. Anchorage.

Wood River Aerial Surveys

2879

Category: Escapement *Visual fish counts obtained from over flights by airplane or helicopter.*
Method: Aerial Survey

Anad. Water No.:

Management Area: Bristol Bay

District: Nushagak District

Site Selct Method: Geographic features

Years Data Collected: 1959 to current

Years with no data:

Sampling Frequency annual

Check if project is On-Going

WebSite:

DBFormat: Unknown

DataQuality poor

Sampling Location Shapefile: AerialSvy_Loc

Area of Inference

Monitoring Tier Assignment: MT-3

Line Geometry Shapefile: AerialSvy_LAI

Polygon Geometry Shapefile: AerialSurvey_PA1

Description

Survey flights are conducted from small fixed wing aircraft (Super Cub, Cessna 185, or Cessna 206) or a helicopter (Robertson R-22). Surveys are flown during late summer and fall to assess escapement distribution of sockeye salmon and pink salmon in the Wood River system. Salmon counts are indices of the total number present in the spawning area at the time of the survey.

Surveyed areas are depicted in the associated shape file. In addition to these areas, beach areas of the various Wood River lakes are surveyed.

Species	Race	Life Stage	Form	Production	Target
Sockeye		adult	anadromous	wild stock	target spec
Pink		adult	anadromous	wild stock	target spec

Contacts:

Supervisor Lowell Fair Bristol Bay Research Projec
 ADF&G Commercial Fisheries Anchorage AK

Agencies asociated with this Data Set:

Lead Agency Alaska Department of Fish & Game Commercial Fisheries (907) 267-2104
 333 Raspberry Rd. Anchorage AK 99518

DDAP Category	ID	Objective
ABUNDANCE	A5	Relative estimate (index) for adult spawners
DISTRIBUTION	DT9	Spawning ground distribution
DIVERSITY	DV10	Adult run timing

Data are kept at agcy.

Data are reported As resources permit

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Data available via hardcopy

Data generally not available

References:

Bucher, W. A. 1981.

Spawning Ground surveys in the Nushagak and Togiak Districts of Bristol Bay, 1980. Alaska Department of Fish and Game, Division of Commercial Fisheries, Bristol Bay Data Report 81, Anchorage.

Glick, B., K. Weiland, J. Browning, & S. Morstad. Februa

Salmon Spawning Ground Surveys in the Bristol Bay Area, Alaska, 1999. Alaska Department of Fish and Game, Division of Commercial Fisheries, Anchorage. Regional Information Report No. 2A00-04

Nelson, M.L. 1967.

Red salmon spawning ground surveys in the Nushagak and Togiak Districts of Bristol Bay, 1966. Alaska Department of Fish and Game, Division of Commercial Fisheries, Informational Leaflet 96. Juneau.

Nelson, M.L. 1968.

Spawning Ground surveys in the Nushagak and Togiak Districts of Bristol Bay, 1968. Alaska Department of Fish and Game, Division of Commercial Fisheries, Bristol Bay Data Report 5, Anchorage.

Wood River Tower

2846

Category: Escapement *Visual count method from a tower or structure located over stream banks.*
Method: Tower

Anad. Water No.: 325-30-10100-2031
Management Area: Bristol Bay
District: Nushagak District
Site Selct Method: Geographic features

Years Data Collected:	1956 to current
Years with no data:	none
Sampling Frequency	daily
Check if project is On-Going	<input checked="" type="checkbox"/>

WebSite: <http://www.cf.adfg.state.ak.us/region2/finfish/salmon/bbayhome.php>

DBFormat: Excel Table
DataQuality Good

Sampling Location Shapefile: EscSites_Loc

Monitoring Tier Assignment: MT-1

Area of Inference

Line Geometry Shapefile: EscSites_LAI

Polygon Geometry Shapefile: EscSites_PAI

Description

Counting towers are operated on both banks of the river below Aleknagik to visually estimate the magnitude of the sockeye salmon escapement into the drainage. The towers are typically operated from around the third week of June through mid to late July.

Species	Race	Life Stage	Form	Production	Target
Sockeye		adult	anadromous	wild stock	target spec

Contacts:

Supervisor Tim Sands Area Management Biologist
 ADF&G Commercial Fisheries Dillingham AK

Agencies asociated with this Data Set:

Lead Agency Alaska Department of Fish & Game Commercial Fisheries (907) 842-5227
 P.O. Box 230 Dillingham AK 99576

DDAP Category	ID	Objective
ABUNDANCE	A6	True estimate for adult spawners
DISTRIBUTION	DT7	Points of adult passage in river
DIVERSITY	DV6	Spawn timing

Data are kept at agcy.

Data are reported

Check if Meta Data are available:

Check if Charge Money for Data:

Data may be accessed as follows:

Special request via email or letter & provided electronically

Data available via hardcopy

References:

Anderson, Cindy J., 1999.

Historic Counting Tower Projects in the Bristol Bay Area, 1955-1998. Alaska Department of Fish and Game, Commercial Fisheries, Anchorage. Regional Information Report No. 2A99-12.

Weiland, Morstad, Browning, Sands, Fair, & Crawford. 2

Bristol Bay 2002 Annual Management Report, ADF&G, Commercial Fisheries, Anchorage. RIR No. 2A03-18.

West, Fred, W., 2003.

Abundance, age, sex and size statistics for Pacific Salmon in Bristol Bay, 2002. Alaska Department of Fish and Game, Commercial Fisheries Division. RIR No. 2A03-23. Anchorage.