

2023 ANNUAL MANAGEMENT PLAN
WILLIAM JACK HERNANDEZ SPORT FISH HATCHERY

Alaska Department of Fish and Game
Division of Sport Fish

March 2023

1 OVERVIEW

This plan remains in effect until it is superseded by a new annual management plan (AMP) in the following year. This AMP serves as a guide for hatchery operations, and any anticipated changes from this plan will be submitted as an amendment to this plan.

Alaska Department of Fish and Game (ADF&G) Division of Sport Fish operates the William Jack Hernandez Sport Fish Hatchery (WJHSFH).

ADF&G Division of Sport Fish annually produces a *Statewide Stocking Plan for Sport Fish* (SSP)¹. This document contains specific release sites, sizes, and numbers of fish to be released over a 5-year period. All releases for the current year have received departmental and public review.

1.1 New for 2023

1.1.1 William Jack Hernandez Sport Fish Hatchery

Smolt production:

King salmon: Donor stock shortages and use of alternate donor stocks.

- Eklutna Tailrace release: The demand for Ship Creek donor stock brood fish and resulting smolt increased following the 2020 elimination of the Deception Creek donor stock from the sport fish hatchery program. The number of brood fish returning to WJHSFH via Ship Creek in 2022 was sufficient to support the increased demand; therefore, the number of smolt available for release into Eklutna Tailrace in 2023 is projected to meet the planned 424,000 smolt.
- Ninilchik River release: A shortage of brood fish returning to Ninilchik River in 2022 will result in a reduction of the 2023 smolt release from 150,000 to 120,000.
- Crooked Creek release: A shortage of brood fish returning to Crooked Creek in 2022 will result in a reduction of the 2023 smolt release from 140,500 to 92,000.

Lake stocking program:

- Catchable king salmon: All production goals for the catchable king salmon program are expected to be met in 2023. Due to anticipated brood year (BY) 2022 brood shortages in RIII, WJHSFH plans to provide approximately 65,000 eyed eggs to the Ruth Burnett Sport Fish Hatchery (RBSFH) from Ship Creek to meet 2023 RIII catchable production goals. Existing BY 2022 king salmon at both Sport Fish Hatchery facilities are Ship Creek donor stock.
- Coho salmon: Due to anticipated BY 2023 brood shortages in RIII, WJHSFH plans to provide approximately 73,500 eyed eggs to the RBSFH from Ship Creek to meet 2024 RIII fingerling stocking requests.
- Lake trout: Remote lake trout egg takes in RIII occur during the fall of odd years and are stocked as 20 g sub-catchable fish in the fall of even years. All eggs/fish are fish

¹ The document is available at <http://www.adfg.alaska.gov/index.cfm?adfg=fishingSportstockingHatcheries.stockingPlan>

are incubated, hatched, and reared at RBSFH. Approximately 11,400 sub-catchable lake trout will be transported from RBSFH to southcentral Alaska lakes for release in 2024.

2 PRODUCTION PLAN

Fish culture activities for 2023 for WJHSFH are outlined below.

2.1 William Jack Hernandez Sport Fish Hatchery

WJHSFH is located two miles north of downtown Anchorage. Water is provided by three deep (>300') wells, and the hatchery utilizes flow-through, water-reuse, and water-recirculation technologies. Expected total water available is 3,000 gallons per minute (gpm), but planned water use will range from 1,000 to 2,100 gpm.

2.1.1 Incubation

Incubation is provided by 52 Heath stacks with 14 usable trays per stack. Water temperature to each half-stack (seven trays) can be separately controlled. Moist air incubators may be installed in the future.

WJHSFH provides eyed rainbow trout to RBSFH in Fairbanks, Pillar Creek Hatchery¹ in Kodiak, and Deer Mountain Hatchery² in Ketchikan. WJHSFH also provides Arctic char eggs to RBSFH and annually provides eyed king salmon eggs to Wally Noerenberg Hatchery³ in Prince William Sound.

Planned incubation by species for 2023:

- Rainbow trout: approximately 3,752,990 green eggs
- Arctic char: approximately 173,601 green eggs
- King salmon: approximately 3,046,944 green eggs
- Coho salmon: approximately 1,287,919 green eggs

2.1.2 Rearing

WJHSFH currently produces rainbow trout, Arctic char, king salmon, and coho salmon.

The following units are available for rearing fish at WJHSFH:

- Fifteen 2'-diameter fiberglass tanks (0.16 m³)
- Twelve 5'-diameter fiberglass tanks (1.4 m³)
- Thirty-three 10'-diameter fiberglass tanks (8.2 m³)
- Four 16'-diameter fiberglass tanks (25.6 m³)
- Two 20'-diameter fiberglass tanks (40.1 m³)
- Thirty-nine 26'-diameter fiberglass tanks (91.7 m³)

¹Pillar Creek Hatchery is operated by Kodiak Regional Aquaculture Association.

²Deer Mountain Hatchery is operated by Southern Southeast Regional Aquaculture Association.

³Wally Noerenberg Hatchery is operated by Prince William Sound Aquaculture

The following units are available for holding brood fish at WJHSFH:

- Two 5'x 4'x 48' aluminum raceways (27.19 m³)
- Two 8'x 2.5'x 75' aluminum raceways (42.3 m³)

The following units are available for loading stocking trucks at WJHSFH:

- Two 8' x 2.5'x 75' aluminum raceways (42.3 m³)

The approximate number of fish by species and BY, including anticipated rearing mortality, reared in 2023 is listed below:

- BY 2021 rainbow trout (release 2023): 203,674
- BY 2022 rainbow trout (release 2023–2024): Up to 781,364 (includes 4,000 future broodstock)
- BY 2022 king salmon (release 2023–2024): 2,156,000
- BY 2023 king salmon (release 2024–2025): 2,156,000
- BY 2021 coho salmon (release 2023): 1,105,000
- BY 2022 coho salmon (release 2023–2024): 1,238,820
- BY 2021 Arctic char (release 2023): 20,825
- BY 2022 Arctic char (release 2023–2024): 40,975 (includes 1,000 future broodstock)

2.2.3 Captive Broodstock Programs

Rainbow trout: Eggs will be collected from the three-year-old (BY 2020) mixed-sex population of rainbow trout broodstock. Milt from BY 2021 XX males (sex-reversed females that produce all female offspring) will be used to fertilize 100% of the eggs for all-female diploid and all-female triploid production. Milt from the BY 2020 mixed-sex population will be used to fertilize 100% of the eggs for the mixed-sex diploid production. Rainbow trout broodstock photoperiod was manipulated to encourage rainbow trout to spawn in December. With spawn time manipulation, fingerling rainbow trout will be available for stocking in the early part of summer instead of the end of summer.

Arctic char: To maintain the genetic diversity of the captive broodstock, milt from 32 three-year-old and 64 four-year-old males will be used to fertilize eggs collected from 64 four-year-old female WJHSFH captive broodstock. Approximately 200 eggs from each female will be designated as replacement broodstock.

Approximate number of broodstock (BY and species) at WJHSFH:

- BY 2019 Arctic char: 400
- BY 2020 Arctic char: 600
- BY 2021 Arctic char: 1,000
- BY 2020 rainbow trout: 4,000 mixed sex
- BY 2021 rainbow trout: 4,000 mixed sex and 1,600 XX males
- BY 2022 rainbow trout: 4,150 XX males. Female and XY male replacement brood fish are included in rearing until catchable size

2.3 PRODUCTION SYNOPSIS

Fish produced at WJHSFH reduce fishing pressure on wild fish stocks, increase sport fishing opportunity, and provide diversity in sport fisheries throughout Southcentral Alaska. In 2023, up to 163 sites in Southcentral Alaska will be stocked with fish reared at WJHSFH. The lake stocking program comprises most of the sites. Rainbow trout eyed eggs are transferred to Deer Mountain Hatchery in January to provide fish for three Ketchikan area lakes. Rainbow trout eyed eggs are transferred in January to Pillar Creek Hatchery to provide fish for 17 Kodiak area lakes. Rainbow trout and Arctic char eyed eggs are transferred to RBSFH in January and December respectively, to provide fish (2023 fingerling and 2024 catchable rainbow trout releases and 2023 fingerling/subcatchable and 2024 catchable Arctic char releases) for up to 84 Interior Alaska lakes. Most stocked lakes are landlocked lakes or have minimal opportunity for stocked fish to leave the system. Anadromous salmon smolts are released at 11 different sites. The anadromous stocking sites create and expand opportunities to harvest king and coho salmon in a variety of sport fisheries. King salmon eyed eggs will be transferred to Wally Noerenberg Hatchery in September to provide fish for release at Chenega in Prince William Sound. King salmon and coho salmon eggs will be transferred to RBSFH in September and December respectively, to provide fish for release into area lakes.

2.3.1 Lake Stocking

Diploid fish (capable of reproduction) and triploid fish (sterile) are produced for lake stocking programs. Landlocked lakes may be stocked with diploid or triploid fish, but non-landlocked lakes (lakes with intermittent or barriered outlets or subject to occasional flooding) must be stocked with only triploid fish. The one exception is diploid rainbow trout may be released into lakes with a weir, if triploid rainbow trout are not available and the weir has been verified as fish tight. Triploid fish populations must be certified [90% triploid with 95% confidence interval (CI) for all-female populations or 99% triploid with 95% CI for mixed-sex populations] before they can be stocked into non-landlocked lakes. Populations that fail to achieve certification are stocked into landlocked lakes as uncertified triploids. ADF&G produces triploid fish in each of the six species used for lake stocking programs. Triploid fish have lower in-hatchery survival rates than diploid fish. This increases the number of broodstock needed to obtain enough eggs to meet stocking requests. The benefit of protecting the genetic integrity of wild fish populations through triploid fish releases outweighs the drawback of lower in-hatchery survival rates.

Rainbow Trout

General Information: Rainbow trout production is the largest component (approximately 73% by number in 2023) of the Division of Sport Fish Lake stocking program in Southcentral Alaska. Captive broodstock held at WJHSFH support the program. Broodstock originated from wild Swanson River rainbow trout on the Kenai Peninsula and have been held in the hatchery (Fort Richardson Hatchery, Elmendorf Hatchery, and now WJHSFH) since 1982. Both diploid and triploid rainbow trout are produced. Diploid rainbow trout populations are mixed sex or all female. Triploid rainbow trout populations are usually all female, but mixed-sex triploid rainbow trout may be produced if mature XX males are not available for all-female production. Some triploid rainbow trout are stocked in a small number of streams that support no native

trout populations. Broodstock (excess to hatchery needs) are stocked in late summer to early winter, catchable fish are stocked in early to late summer, and fingerling fish are stocked in early to midsummer.

Release Information: In 2023, approximately 781,364 rainbow trout of various sizes will be stocked at 134 sites throughout Southcentral Alaska (Table 1). Specific release sites and numbers of fish to stock can be found in the *Statewide Stocking Plan for Sport Fish, 2023*.

Egg Take and Rearing: Approximately 3,752,990 rainbow trout eggs will be collected from the domestic Swanson River ancestral stock at WJHSFH (Table 2). Triploidy will be induced using pressure chambers in approximately 98% of the eggs collected in December 2023. Brood fish are not screened for bacterial kidney disease (BKD).

WJHSFH transferred 200,000 BY 2022 all-female triploid eyed eggs to Deer Mountain Hatchery in Ketchikan, 200,000 BY 2022 all-female triploid eyed eggs to Pillar Creek Hatchery in Kodiak, and 650,000 BY 2022 all-female triploid eyed eggs to RBSFH in Fairbanks in January 2023 (Table 3). WJHSFH continued to incubate an estimated 943,731 all-female triploid, all-female diploid, and mixed-sex diploid BY 2022 eyed eggs. Eggs for replacement broodstock are included in the all-female and mixed-sex diploid eyed egg numbers. In years where there are not enough triploid fish available to meet production needs, diploid fingerlings surplus to replacement broodstock may be released into Category 1 lakes.

From May through September, approximately 576,140 BY 2022 fingerlings and 203,674 BY 2021 catchables at WJHSFH will be released into Southcentral Alaska lakes. If available, an additional 30,000 low grade (small size) fingerlings will be released into Southcentral Alaska lakes. A total of approximately 1,700 surplus brood fish will be released prior to and following the December 2023 egg take.

Arctic Char

General Information: Wild Arctic char at Aleknagik Lake were the original brood source for this program. Captive broodstock are held at WJHSFH. With the exception of replacement broodstock, all Arctic char produced are triploid. Diploid broodstock surplus to broodstock replacement needs are periodically released into Category 1 lakes as part of the regular stocking program. When available, diploid and triploid fingerlings surplus to broodstock replacement and catchable production needs respectively are released in summer and fall. Catchable Arctic char are released in the spring and summer, and adult broodstock Arctic char are released in the fall.

Release Information: Approximately 20,825 catchable Arctic char and if available up to 950 surplus broodstock and if available up to 19,300 fingerling Arctic char will be stocked into Region II lakes (Table 1). Specific release sites and numbers of fish to stock can be found in the *Statewide Stocking Plan for Sport Fish, 2023*.

Egg Take and Rearing: Up to 337,088 eggs will be collected from 64 pairs of captive broodstock Arctic char at WJHSFH for fertilization and incubation (Table 2). Approximately 200 eggs from each female will be designated as replacement broodstock. Triploidy will be induced using pressure chambers in approximately 69,398 eggs for production. Eggs surplus to production and replacement broodstock needs will be discarded. Approximately 27,500 triploid eyed eggs will be shipped to RBSFH. An estimated 20,825 triploid fish for Region II catchable releases in 2025 and an estimated 1,000 diploid fish for replacement broodstock will rear at WJHSFH. Surplus broodstock fish are released into Category 1 lakes throughout the rearing process as part of the regular stocking program. If available, an additional 19,300 fingerling Arctic char will be released into Southcentral Alaska lakes.

Arctic Grayling

General Information: Due to budget constraints, the Arctic grayling program was suspended in 2020. ADF&G will reinstate the program when funding becomes available.

Release Information: No planned releases in 2023.

Egg Take and Rearing: No planned egg take in 2023.

Lake Trout

General Information: ADF&G reestablished the lake trout stocking program in 2020. Eggs taken from Sevenmile Lake donor brood are used to stock lakes in Southcentral and Interior Alaska. All lake trout eggs are pressure shocked to induce triploidy. Incubation and rearing take place at RBSFH.

Release Information: Lake trout releases occur every two years; lake trout will be released in 2024. In years when lake trout are released, approximately 11,400 lake trout sub-catchables will be released into seven Region II lakes. Lake trout may be transferred from RBSFH directly to the release sites or to an outdoor stocking raceway at WJHSFH where they will be held for up to one week prior to release in Southcentral Alaska lakes. Lake trout fish transport permits (FTPs) are associated with RBSFH.

Egg Take and Rearing: Lake trout eggs are collected in October by RBSFH staff on alternate (odd) years. All lake trout incubation and rearing occurs at RBSFH.

King Salmon

General Information: Ship Creek is the primary donor stock for the lake stocking program. Crooked Creek or Ninilchik River donor stocks may be used depending on broodstock availability. Most catchable king salmon are released in early October. These fish are primarily harvested in the winter ice fishery. Approximately 10,000 – 13,000 fish are released the following February for winter ice fishing events.

Release Information: Approximately 91,000 BY 2021 catchable king salmon from Ship Creek donor stock will be released into 15 lakes in Southcentral Alaska in 2023 (Table 1). Specific release sites and numbers of fish to stock can be found in the in the *Statewide Stocking Plan for Sport Fish, 2023*.

Egg Take and Rearing: In 2023, approximately 246,172 king salmon eggs will be collected for catchable production (Table 2). Eggs for catchable releases will be collected at Ship Creek. Depending on broodstock availability, triploidy may be induced in king salmon eggs for catchable production. Fish reared from eggs collected in 2023 will be released as 120-gram catchable salmon in fall 2024/winter 2025. Kidney samples collected from female adult king salmon spawned will be tested for BKD and the fertilized eggs will be family tracked. Fertilized eggs from any broodstock that tests positive for BKD will be destroyed.

Coho Salmon

General Information: Ship Creek (Little Susitna River) is the primary donor stock (ancestral stock) for the lake stocking program. Bear Lake donor stock may be used at Kenai category 1 lakes and Seward Lagoon stocking locations. Coho salmon fingerlings are released in early summer. These fish are primarily harvested in the winter ice fishery, but some are harvested in mid to late summer.

Release Information: Approximately 133,820 certified triploid fingerlings will be released into 17 Region II lakes.

Fingerling releases are scheduled for early summer 2023, when fish have reached the 1–5 g target size.

Specific lakes and stocking numbers can be found in the *Statewide Stocking Plan for Sport Fish, 2023*.

Egg Take and Rearing: Up to 168,531 coho salmon eggs will be collected for Southcentral fingerling production (Table 2). Eggs for fingerling releases will be collected at Ship Creek. Depending on broodstock availability, up to 100% of the fingerling production may be triploid. Coho salmon eggs will be collected in September and October and incubated throughout the winter at WJHSFH. Emergence will occur in February and fingerlings will be released in early summer of 2024. Kidney samples collected from female adult coho salmon spawned will be tested for BKD. The fertilized eggs will be family tracked. Fertilized eggs from broodstock that test positive for BKD will be destroyed. Due to anticipated BY2023 brood shortages in RIII, WJHSFH plans to provide approximately 73,500 eyed eggs to the RBSFH from Ship Creek to meet 2024 RIII fingerling stocking requests.

2.3.2 Anadromous Smolt Stocking

King Salmon

General Information: King salmon smolt are stocked at nine different locations (Table 4). All fish stocked are from early run donor stocks. Two locations (Ninilchik River and Crooked Creek) have self-sustaining, naturally producing populations of king salmon. Stocking supplements naturally produced runs with the intent to provide a dependable sport fishery. The other seven locations are terminal fisheries with no significant wild populations of king salmon or wild-stock concerns. The current stocking program is supported by three donor stocks of king salmon. Ship Creek is the primary donor stock for Ship Creek, Eklutna Tailrace, and Prince William Sound

(Whittier and Cordova) releases, and it may be used in Resurrection Bay (Seward Lagoon) and Kachemak Bay terminal fishery (Homer Spit and Seldovia) releases if needed. Crooked Creek is the primary donor stock for Crooked Creek and Resurrection Bay releases, and it may also be used for Kachemak Bay releases and Prince William Sound releases. Ninilchik River is the primary donor stock for Ninilchik River and Kachemak Bay releases and is an alternate donor stock for Prince William Sound and Resurrection Bay releases. Some brood fish at Ninilchik River and Ship Creek are injected with Ovaplant®; Salmon Gonadotropin - Releasing Hormone analogue (sGnRHa) to synchronize spawn timing. The 2022 egg-take goals at Ship Creek were achieved. The 2022 egg-take goals for Ninilchik River were not achieved. This resulted in a shortfall of replacement brood for Ninilchik. The 2022 egg-take goals for Crooked Creek were not achieved. This resulted in a shortfall of replacement brood for Crooked Creek.

Release Information: A total of 2,156,000 king salmon smolt are scheduled for release in 2023 (Table 4). A size at release study using Ship Creek release groups was initiated with the 2014 releases and ended in 2022. One release group of approximately 156,900 smolt had a target average size at release of 18.0–20.0 g, and a second release group with approximately 424,500 smolt had a target average size at release of 12.0–14.0 g. The target release size for all other releases is 12.0–14.0 g. Data on the size at release study will be evaluated as brood years continue to return to Ship Creek. King salmon smolt will be released in May/June. Ninilchik River smolt will be released approximately 14 river miles upstream from the mouth of the Ninilchik River. Crooked Creek smolt will be released at Crooked Creek facility. To minimize straying of returning adults, smolt will be held for imprinting in the Crooked Creek facility raceways prior to release. All smolt released at these two sites are fin-clipped to identify hatchery-released fish from naturally produced fish in the adult returns. Cordova smolt will be released at Fleming Spit, and Whittier smolt will be released near Cove Creek. Homer Spit smolt will be released into the Nick Dudiak Fishing Lagoon, and Seldovia smolt will be released into Seldovia Lagoon. Ship Creek smolt will be released into Ship Creek, and Eklutna Tailrace smolt will be released into Eklutna Tailrace. Cordova and Whittier releases are held for a minimum of three days at the stocking site prior to release to improve imprinting and reduce potential straying. The Eklutna Tailrace smolt may be released directly into Eklutna Tailrace and not held for imprinting due to lack of funding. The Nick Dudiak Fishing Lagoon (Homer Spit) is sampled prior to release for the presence of *Chaetoceros* to determine if the smolt can be safely held in net pens during the imprinting process. In recent years, the smolt have been held in net pens for several hours (from delivery to approximately midnight) at the stocking site before release. This reduces the rate of predation by sea birds. The smolt released at Homer Spit typically remain in the lagoon for several days after release and are fed until they leave the area. Ship Creek smolt will be transferred to the salmon broodstock collection raceways at WJHSFH and held for imprinting. All king salmon release groups are 100% thermally marked (Table 10).

Egg Take and Rearing: In 2023, approximately 3,046,944 king salmon eggs will be collected for production of 2024 smolt and fall 2024 – winter 2025 catchables (Table 5). This includes approximately 50,000 eggs that will be transferred at the eyed-egg

stage to Wally Noerenberg Hatchery for continued incubation and rearing until release (Table 3). Egg fertilization will take place at WJHSFH. Kidney samples collected from female adult king salmon spawned will be tested for BKD. Fertilized eggs will be family tracked. Fertilized eggs from broodstock that test positive for BKD will be destroyed.

Coho Salmon

General Information: Coho salmon are stocked at six different locations using two different donor stocks (Table 6). Ship Creek (Little Susitna River) donor stock is used to stock Homer Spit, Ship Creek, Eklutna Tailrace, Bird Creek, and Campbell Creek. Bear Lake donor stock is used to stock Resurrection Bay (Seward Lagoon).

Release Information: A total of 1,105,000 coho salmon smolt are available for release in 2023. Anticipated numbers of fish to be released are listed in Table 6. All coho salmon release groups are thermally marked (Table 10).

Egg Take and Rearing: In 2023 approximately 1,287,919 coho salmon eggs will be collected for 2024 fingerling production and 2025-smolt production (Table 7). Eggs will be fertilized at WJHSFH. Eggs for smolt releases into Ship Creek, Campbell Creek, Bird Creek, Homer Spit, Eklutna Tailrace, and all fingerling releases will be collected at Ship Creek. This will require approximately 237 females. Approximately 312,859 eggs (77 females) of Bear Lake donor stock will be collected, in cooperation with Cook Inlet Aquaculture Association, for Resurrection Bay releases. Kidney samples collected from all female adult coho salmon spawned will be tested for BKD. Fertilized eggs will be family tracked. Fertilized eggs from female broodstock that test positive for BKD will be destroyed. All coho salmon eggs will be collected in September/October 2023 and incubated at WJHSFH throughout the winter. Emergence will occur in February 2024. Approximately 133,820 coho salmon fingerlings will be released into lakes in 2024. WJHSFH will rear the remaining fish for one more year to produce 1,105,000smolts in May 2025.

3 MANAGEMENT CONSIDERATIONS

3.1 Lake Stocking

Rainbow trout, king and coho salmon, and Arctic char are stocked in lakes on a “put-and-take” or “put-and-grow” basis; no special management considerations are required. The sport fish season and bag limits generally provide for a maximum harvest of these stocked species. A list of fish transport permits (FTP) associated with lake stockings is presented in Table 8. Specific objectives for these programs are provided in the *Statewide Stocking Plan for Sport Fish, 2023*.

3.2 Anadromous Smolt Stocking

3.2.1 King Salmon

The primary purpose of the Ninilchik River and Crooked Creek king salmon stocking projects is to increase fishing opportunities on a sustainable basis by supplementing natural runs of fish in each stream without significantly altering historic age and sex compositions. Commercial harvest of these stocks is minimal due to their early run timing. Sport fishery

management concerns associated with these projects are minimal. Sport fish regulations on early-run Kasilof River (Crooked Creek release) and Ninilchik River king salmon fisheries target harvest of hatchery-released fish. These fisheries are designed to increase angler opportunity and harvest potential on hatchery stocks while preserving the wild component of the run.

The primary purpose of the Ship Creek, Seldovia, Homer Spit, Resurrection Bay, Eklutna Tailrace, Whittier, and Cordova king salmon stocking projects is to provide for terminal fisheries in areas where no king salmon fisheries would otherwise exist. These fisheries provide for harvest of large numbers of king salmon with little or no wild stock impacts. These fisheries also generate a significant number of angler days of effort and potentially reduce angler effort on accessible wild fish populations. Commercial harvest of these stocks is minimal due to their early run timing. Sport fishery management concerns associated with these projects are minimal.

3.2.2 Coho Salmon

The primary purpose of the coho salmon enhancement program is to increase coho salmon sport fishing opportunities in Northern Cook Inlet, Lower Cook Inlet, and Resurrection Bay. Significant sport fisheries exist at all six stocking locations and each location provides excellent terminal harvest opportunity. Commercial harvest is minimal on Lower Cook Inlet and Resurrection Bay returns. Returns to these fisheries are usually sufficient to support large sport fisheries, and sport fishery management concerns associated with these projects are minimal. A list of FTPs associated with anadromous stockings is presented in Table 8.

4 PROJECTED HARVESTS

Table 9 summarizes projected 2023 sport fish harvest rates for projects supported through fish production from WJHSFH. The 2023 harvest projection for Ship Creek, Bird Creek, and Eklutna Tailrace anadromous releases is the most recently published (2021) Statewide Harvest Survey (SWHS) harvest estimate. Harvest projection for Resurrection Bay (coho and king salmon) and Homer Spit (coho and king salmon) is the SWHS shoreline estimate for 2021. The contribution of returning adult salmon from these hatchery releases to the boat sport fish harvest is not estimated. The harvest projection for Campbell Creek, Crooked Creek, and Ninilchik River is not reported because the hatchery contribution to the sport fish harvest for these fisheries is not estimated. The harvest projection for Seldovia cannot be determined as it is not reported separately in the SWHS. The harvest projection for Whittier and Cordova cannot be determined as these fish may be harvested during the winter feeder king fisheries. Harvest projection for Arctic char, Arctic grayling, landlocked salmon, and rainbow trout is also based on the 2021 SWHS estimate.

5 EVALUATION

All king and coho salmon smolts are thermally marked to allow for assessment of commercial harvest, in river sport fishery contributions, and straying at selected stocking locations. Table 10 outlines mark group assignments for each release site. In 2023, all king salmon smolt released at Crooked Creek and Ninilchik River are marked with an adipose fin clip to identify hatchery-produced fish from naturally produced fish in the sport

fishery, broodstock collection, and escapement. Coded-wire-tagging of king salmon was discontinued following the 2017 releases. Marine sport fishery data for Cook Inlet is summarized in Begich (2007).

A recovery program for coho salmon otoliths at Seward remained in effect from 2003–2005. Coded-wire-tagging of coho salmon smolt was discontinued in 2005.

Otoliths may be collected from adult king and coho salmon returning to streams adjacent to release sites to monitor for straying. A post-hatch accessory mark for the Ninilchik River King salmon release has been applied to smolt since BY2021 to determine the source of adipose-clipped King salmon strays (Crooked Creek release or Ninilchik River release) entering Deep Creek and the Anchor River.

Sport fishery catch, harvest, and effort statistics are estimated annually by the SWHS.

Fin-marking and thermal marking of some lake stocking products are done on an as needed basis, as defined by Division of Sport Fish research biologists, to evaluate various lake stocking projects. Catch, harvest, and effort statistics are estimated annually by the SWHS.

6 RESEARCH

In order to determine the king salmon smolt size-at-release that yields the greatest return to the sport fishery a king salmon smolt size-at-release study was initiated in 2014. Between 2014 and 2022, two release groups of Ship Creek donor stock smolt, with target average size at release of 12.0–14.0 g and 18.0–20.0 g, were released into Ship Creek. Unique thermal marks were applied to 100% of the smolt in both release groups so their contribution to the fishery can be determined. Otoliths collected from adult king salmon returning to the brood holding raceways along Ship Creek are prepared and read by hatchery staff. Evaluation of the remaining size-at-release groups will continue until individuals from all brood years have returned to WJHSFH and are sampled as adults.

Future research will be conducted at WJHSFH. Possible projects include selective spawning of rainbow trout, Arctic char, and salmon.

7 LITERATURE CITED

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8 APPROVAL

Recommendation for Approval: William Jack Hernandez Sport Fish Hatchery Annual Management Plan, 2023.

Charles Pratt, Hatchery Program, Division of Sport Fish 4/24/2023

Jason Dye, Regional Supervisor, Division of Sport Fish 4/25/2023

Bert Lewis, Regional Supervisor, Division of Commercial Fisheries 4/20/2023

Ethan Ford, Regional Resource Development Biologist Com. Fish 4/20/2023

Lorraine Vercessi, PNP Hatchery Program Coordinator, Div. of Commercial Fisheries 5/15/2023

Approval: The 2021 William Jack Hernandez Sport Fish Hatchery Annual Management Plan is hereby approved.

Tom Taube, Deputy Director, Division of Sport Fish 5/17/2023

Forrest Bowers, Deputy Director, Division of Commercial Fisheries 5/16/2023

William Jack Hernandez Sport Fish Hatchery 2022 Annual Management Plan

Table 1.–Summary of Fish Releases from WJHSFH for Lake Stocking Programs in 2023.

Species	Release Location	Number ¹	Size ²	Number of Stocking	
				Type ³	Locations ⁴
Rainbow trout	Region II	376,865	Fingerling	3N/2N	49
		96,450	Fingerling	3N	20
		30,000	Fingerling ⁵	3N	4
		159,944	Catchable	3N/2N	40
		43,730	Catchable	3N	26
		1,550	Broodstock ⁵	2N	9
Total		708,539			140
Arctic char	Region II	9,300	Fingerling ⁵	3N/2N	5
		10,000	Fingerling ⁵	3N	3
		2,000	Catchable	3N	1
		18,825	Catchable	3N/2N	17
		950	Broodstock	2N	5
Total		41,075			24
King salmon	Region II	19,000	Catchable	3N	4
		72,000	Catchable	3N/2N	11
		Total		91,000	
Coho salmon	Region II	14,000	Fingerling	3N	3
		119,820	Fingerling	3N/2N	14
		Total		133,820	
Total		974,434			196

¹ Numbers don't include BY 2022 rainbow trout eyed eggs transferred to RBSFH and Deer Mountain Hatchery, BY 2022 rainbow trout eggs transferred to Pillar Creek Hatchery, BY2022 Arctic char eyed eggs transferred to RBSFH, and BY 2023 king salmon eyed eggs transferred to Wally Noerenberg Hatchery (Table 3). All species are Statewide Stocking Plan request numbers.

² Fingerling - 1 to 3 g, Subcatchable - 15 to 70 g, Catchable - greater than 70g. Broodstock fish older than 2 years and greater than 100 g.

³ 2N = Diploid; 3N = Triploid; 3N/2N = Triploid preferred, but diploid may be permitted if triploid fish are not available.

⁴ Total # of stocking locations by species may not equal the sum of the # of locations for each life stage because some release sites receive more than 1 life stage. Overall total release sites may not equal the sum of species release sites because some release sites receive more than 1 species.

⁵ Released if available.

Table 2.–Summary of Division of Sport Fish Egg Takes for Lake Stocking Programs in 2023.

Species	Donor Stock (Ancestral Stock)	Females	Number of Eggs
Rainbow trout ¹	WJHSFH (Swanson River)	1,166	3,752,990
Arctic char ²	WJHSFH (Lake Aleknagik)	64	Up to 337,088
King salmon ³	Ship Creek, Ninilchik River, or Crooked Creek	Up to 42	246,172
Coho salmon ⁴	Ship Creek (Little Susitna River) or Bear Lake	Up to 42	242,031

¹ Includes eggs to produce 200,000 eyed eggs for Pillar Creek Hatchery, 200,000 eyed eggs for Deer Mountain Hatchery, and 650,000 eyed eggs for RBSFH.

² The 64 pairs of Arctic char spawned to obtain genetic diversity in the captive broodstock is more than what is necessary to meet production needs. Approximately 82,198 BY22 eggs will be incubated, and the surplus eggs will be culled. Includes 27,500 eyed eggs for RBSFH.

³ If brood fish are available, up to 42 pairs will be spawned in case incubation survival and triploid induction rates are lower than anticipated.

⁴ If brood fish are available, up to 42 pairs will be spawned in case the incidence of BKD in female brood fish is greater than anticipated and the triploid induction rate is lower than anticipated. Total number of eggs includes 73,500 eggs for Region III coho fingerling production.

Table 3.–Summary of hatchery-to-hatchery transfers in 2023.

Species	Life stage	Sending hatchery	Receiving hatchery	Ploidy	Donor stock	Sex	Number
Rainbow trout	Eyed egg	WJHSFH	RBSFH	3N	WJHSFH (Swanson River)	All female	650,000
Rainbow trout	Eyed egg	WJHSFH	PCH	3N	WJHSFH (Swanson River)	All female	200,000
Rainbow trout	Eyed egg	WJHSFH	DMH	3N	WJHSFH (Swanson River)	All female	200,000
King salmon	Eyed egg	WJHSFH	RBSFH	3N	Ship Creek	Mixed Sex	49,980
King salmon	Eyed egg	WJHSFH	WNH ¹	2N	Ship Creek	Mixed sex	50,000
Coho salmon	Eyed egg	WJHSFH	RBSFH	2N	Ship Creek (Little Susitna River)	Mixed sex	85,333
Arctic char	Eyed egg	WJHSFH	RBSFH	3N	WJHSFH (Lake Aleknagik)	Mixed sex	107,400

Notes: PWSAC = Prince William Sound Aquaculture Corp., DMH=Deer Mountain Hatchery, RBSFH = Ruth Burnett Sport Fish Hatchery, PCH = Pillar Creek hatchery, WJHSFH = William Jack Hernandez Sport Fish Hatchery, WNH = Wally Noerenberg Hatchery

¹ Eggs for PWSAC Wally Noerenberg Hatchery terminal fishery at Chenega.

Table 4.–Numbers of king salmon smolt to be stocked by Division of Sport Fish in 2023.

Release Site	Hatchery	Donor Stock	Release Number²
Northern Cook Inlet			
Ship Creek	WJHSFH	Ship Creek	575,000
Eklutna Tailrace	WJHSFH	Ship Creek	<u>424,000</u>
		Total	999,000
Central/Lower Cook Inlet			
Crooked Creek ¹	WJHSFH	Crooked Creek	92,000
Seldovia	WJHSFH	Crooked Creek	105,000
Homer Spit	WJHSFH	Crooked Creek	315,000
Ninilchik River ¹	WJHSFH	Ninilchik River	<u>120,000</u>
		Total	632,000
Resurrection Bay			
Seward Lagoon	WJHSFH	Crooked Creek	<u>315,000</u>
		Total	315,000
Prince William Sound			
Whittier	WJHSFH	Crooked Creek/Ninilchik River	105,000
Cordova	WJHSFH	Crooked Creek/Ninilchik River	<u>105,000</u>
		Total	210,000
			<i>Grand Total</i>
			<i>2,156,000</i>

¹ A shortage of Crooked Creek Brood in 2022 resulted in a shortfall in the number of smolt produced for the Crooked Creek Brood replacement and Ninilchik Brood Replacement

² Release number is the stocking goal presented in the Statewide Stocking Plan for Sport Fish. Actual release number may be +/- 5% of the stocking goal.

Table 5.–Division of Sport Fish king salmon egg-take summary for 2023.

Donor Stock	Number of Sites	Number of Eggs	Fecundity	Number of Females	Females to Spawn	Egg-take Responsibility	Incubation Facility
Ship Creek ^{1,2}	4	1,720,776	6,014	287	287	WJHSFH	WJHSFH
Crooked Creek	2	576,633	5,012	115	115	WJHSFH and Soldotna	WJHSFH
Ninilchik	3	749,535	4,944	152	152	WJHSFH and Homer	WJHSFH
Totals	9	3,046,944		554	554		

¹ Includes up to 246,172 eggs from up to 42 females for lake stocking programs.

² Includes eggs for transfer to PWSAC WNH for Chenega release.

Table 6.–Division of Sport Fish coho salmon smolt releases in 2023.

Release Site	Hatchery	Donor Stock (Ancestral stock)	Release Number¹
Northern Cook Inlet			
Ship Creek	WJHSFH	Ship Creek (Little Susitna River)	240,000
Bird Creek	WJHSFH	Ship Creek (Little Susitna River)	125,000
Campbell Creek	WJHSFH	Ship Creek (Little Susitna River)	50,000
Eklutna Tailrace	WJHSFH	Ship Creek (Little Susitna River)	<u>120,000</u>
		Total	535,000
Lower Cook Inlet			
Homer Spit	WJHSFH	Ship Creek (Little Susitna River)	<u>120,000</u>
		Total	120,000
Resurrection Bay			
Seward Lagoon	WJHSFH	Bear Lake	<u>240,000</u>
		Total	240,000
Grand Total			895,000

¹ Release number is the stocking goal presented in the Statewide Stocking Plan for Sport Fish. Actual release number may be +/- 5% of the stocking goal.

Table 7.–Division of Sport Fish coho salmon egg-take summary for 2023.

Donor Stock	Number of Sites	Number of Eggs¹	Fecundity	Number of Females	Females to Spawn	Egg-take Responsibility	Incubation Facility
Bear Lake	1	312,859	4,023	77	77	WJHSFH and CIAA	WJHSFH
Ship Creek (Little Susitna River)	5	975,060	3,693	264	264	WJHSFH	WJHSFH
Totals	6	1,287,919		341	341		

¹ Up to 258,510 eggs (70 females) for lake stocking are included in the Ship Creek (Little Susitna River) broodstock.

Either Bear Lake or Ship Creek coho salmon donor stocks may be used for lake stocking projects.

Table 8.–Fish transport permits (FTPs) for egg takes, hatchery-to-hatchery transfers, and fish releases from William Jack Hernandez Sport Fish Hatchery.

Area	Species	Donor Stock (Ancestral Stock)	FTP #	Expiration Date	Release Description	Lake Category	Life Stage
Anchorage	Arctic char	WJHSFH (L. Aleknagik)	13A-0028	12/31/2028	Campbell Pt L, Clunie L, GASS, Fish L, Green L, Thompson L	1	2N Catchable/ Broodstock
Anchorage	Arctic char	WJHSFH (L. Aleknagik)	13A-0029	12/31/2028	Campbell Pt L, Clunie L, GASS, Fish L, Green L, Thompson L	1	3N Catchable
Anchorage	Arctic char	WJHSFH (L. Aleknagik)	13A-0030	12/31/2028	Sand L	3	2N Broodstock
Anchorage	Arctic char	WJHSFH (L. Aleknagik)	13A-0031	12/31/2028	Sand L	3	3N Catchable
Anchorage	King salmon	Ship Ck (Ship Ck)	12A-0089	12/31/2029	Ship Ck	NA	Smolt
Anchorage	King salmon	Ship Ck (Ship Ck)	12A-0121	12/31/2029	Jewel L, Hillberg L, Green L, Campbell Pt L, Clunie L, DeLong L, GASS	1	Catchable
Anchorage	King salmon	Crooked Ck (Crooked Ck)	21A-0006	12/31/2029	Jewel L, Hillberg L, Green L, Campbell Pt L, Clunie L, DeLong L, GASS	1	2N/3N Catchable
Anchorage	King salmon	Deception Ck (Willow Ck.)	15A-0015	12/31/2029	Jewel L, Hillberg L, Green L, Campbell Pt L, Clunie L, DeLong L, GASS	1	2N Catchable

Area	Species	Donor Stock (Ancestral Stock)	FTP #	Expiration Date	Release Description	Lake Category	Life Stage
Anchorage	King salmon	Ninilchik R (Ninilchik R)	21A-0005	12/31/2029	Jewel L, Hillberg L, Green L, Campbell Pt L, Clunie L, Delong L, GASS	1	2N/3N Catchable
Anchorage	King salmon	Crooked Ck (Crooked Ck)	21A-0008	12/31/2029	Taku Campbell L	2	3N Catchable
Anchorage	King salmon	Ship Ck (Ship Ck)	12A-0120	12/31/2029	Taku Campbell L	2	3N Catchable
Anchorage	King salmon	Ninilchik R (Ninilchik R)	21A-0007	12/31/2029	Taku Campbell L	2	3N Catchable
Anchorage	King salmon	Crooked Ck (Crooked Ck)	21A-0010	12/31/2029	Beach L, Cheney L, Mirror L, Sand L	3	3N Catchable
Anchorage	King salmon	Ship Ck (Ship Ck)	12A-0122	12/31/2029	Beach L, Cheney L, Mirror L, Sand L	3	3N Catchable
Anchorage	King salmon	Ninilchik R (Ninilchik R)	21A-0009	12/31/2029	Beach L, Cheney L, Mirror L, Sand L	3	3N Catchable
Anchorage	Coho salmon	Ship Ck (L. Susitna R)	18A-0027	12/31/2027	Bird Ck	NA	Smolt
Anchorage	Coho salmon	Ship Ck (L. Susitna R)	18A-0028	12/31/2027	Campbell Ck	NA	Smolt
Anchorage	Coho salmon	Ship Ck (L. Susitna R)	18A-0029	12/31/2027	Ship Ck.	NA	Smolt
Anchorage	Coho salmon	Ship Ck (L. Susitna R)	19A-0029	12/31/2027	Jewel L, Hillberg L, Green L, Campbell Pt L, Clunie L, Delong L, GASS	1	3N Catchable
Anchorage	Coho salmon	Ship Ck (L. Susitna R)	19A-0030	12/31/2027	Taku Campbell L	2	3N Catchable
Anchorage	Coho salmon	Ship Ck (L. Susitna R)	19A-0032	12/31/2027	Mirror L, Cheney L, Beach, Sand L	3	3N Catchable
Anchorage	Rainbow trout	WJHSFH (Swanson R)	16A-0043	12/31/2023	Campbell Pt L, Clunie L, Delong L, Fish L, Green L, Gwen L, Hillberg L, Jewel L, Otis L, Spring L, Triangle L, Waldon L	1	3N Catchable
Anchorage	Rainbow trout	WJHSFH (Swanson R)	16A-0022	12/31/2023	Campbell Pt L, Clunie L, Delong L, Fish L, Green L, Gwen L, Hillberg L, Jewel L, Otis L, Spring L, Triangle L, Waldon L, GASS	1	2N Catchable Broodstock

Area	Species	Donor Stock (Ancestral Stock)	FTP #	Expiration Date	Release Description	Lake Category	Life Stage
Anchorage	Rainbow trout	WJHSFH (Swanson R)	16A-0023	12/31/2023	Airstrip/Willow Pond, Taku Campbell L, Tangle Pond	2	3N Catchable
Anchorage	Rainbow trout	WJHSFH (Swanson R)	16A-0024	12/31/2023	Alder Pond, Beach L, Cheney L, Edmunds L, Lower Fire L, Mirror L, Otter L, Rabbit L, Sand L, Symphony L	3	3N Catchable/ Fingerling
Anchorage	Rainbow trout	WJHSFH (Swanson R)	15A-0064	12/31/2023	Cheney L, Sand L	3	2N Broodstock/ Catchable
Anchorage	Rainbow trout	WJHSFH (Swanson R)	16A-0044	12/31/2023	Campbell Creek, Chester Creek, Upper Six-Mile L	5	3N Catchable
Delta	Arctic char	WJHSFH (L. Aleknagik)	19A-0003	12/31/2024	Backdown L, Brodie L, Coal Mine #5, Four Mile L, Ken's Pond, Quartz L, Rangeview L, Shaw Pond, Sheefish L	1	Fingerling/ Subcatchable/ Catchable
Delta	Arctic char	WJHSFH (L. Aleknagik)	20A-0001	12/31/2024	Nickel L	2	3N Fingerling/ Subcatchable/ Catchable
Delta	Arctic char	WJHSFH (L. Aleknagik)	20A-0002	12/31/2024	J L	3	3N Fingerling/ Subcatchable/ Catchable
Delta	Coho salmon	Ship Ck. (Little Susitna R.)	20A-0008	12/31/2027	Quartz L	1	Fingerling
Delta	Rainbow trout	WJHSFH (Swanson R)	13A-0022	12/31/2023	Little Lost L	1	2N Broodstock
Fairbanks	Arctic char	WJHSFH (L. Aleknagik)	13A-0019	12/31/2024	Kid's Fishing Pond	1	2N Broodstock
Fairbanks	Arctic char	WJHSFH (L. Aleknagik)	19A-0004	12/31/2024	Bathing Beauty Pond, Chena L, Grayling L, Harding L, Hidden L (EAFB), Moose L, Polaris L	1	Fingerling/ Subcatchable/ Catchable
Fairbanks	Arctic char	WJHSFH (L. Aleknagik)	19A-0005	12/31/2024	Birch L, Lost L	3	Fingerling/ Subcatchable/ Catchable
Fairbanks	King salmon	Ship Ck. (Ship Ck.)	20A-0028	12/31/2029	Birch L, Lost L	3	Catchable
Fairbanks	King salmon	Ship Ck. (Ship Ck.)	20A-0029	12/31/2029	Cushman L	2	Catchable

Area	Species	Donor Stock (Ancestral Stock)	FTP #	Expiration Date	Release Description	Lake Category	Life Stage
Fairbanks	Rainbow trout	WJHSFH (Swanson R)	13A-0023	12/31/2023	Ballaine L, Bathing Beauty Pond, Chena L, Chena HS #30, Kids' Fishing Pond, L. Harding L, North Pole Pond	1	2N Broodstock
Glennallen	Arctic char	WJHSFH (L. Aleknagik)	19A-0006	12/31/2024	Buffalo L, Dick L, Ryan L	1	Fingerling/ Subcatchable/ Catchable
Glennallen	Arctic char	WJHSFH (L. Aleknagik)	19A-0007	12/31/2024	Gergie L, John L	2	Fingerling/ Subcatchable/ Catchable
Glennallen	Arctic char	WJHSFH (L. Aleknagik)	19A-0008	12/31/2024	Crater L, Tex Smith L	3	Fingerling/ Subcatchable/ Catchable
Glennallen	Arctic char	WJHSFH (L. Aleknagik)	19A-0009	12/31/2024	Two Mile L	5	Fingerling/ Subcatchable/ Catchable
Glennallen	Rainbow trout	WJHSFH (Swanson R)	15A-0005	12/31/2023	Buffalo L, Junction L, North Jans L, Ryan L, South Jans L, Strelna L, Tolsona Mountain L	1	3N Fingerling/ Subcatchable/ Catchable
Glennallen	Rainbow trout	WJHSFH (Swanson R)	15A-0006	12/31/2023	Gergie L, Old Road L, Peanut L, Pippin L, Round L, Sculpin L, Silver L, Tolsona L	2	3N Fingerling/ Subcatchable/ Catchable
Glennallen	Rainbow trout	WJHSFH (Swanson R)	15A-0007	12/31/2023	Crater L, DJ L, Tex Smith L	3	3N Fingerling/ Subcatchable/ Catchable
Glennallen	Rainbow trout	WJHSFH (Swanson R)	15A-0008	12/31/2023	Squirrel Ck. Pit	4	3N Fingerling/ Subcatchable/ Catchable
Glennallen	Rainbow trout	WJHSFH (Swanson R)	15A-0009	12/31/2023	Three Mile L, Two Mile L	5	3N Fingerling/ Subcatchable/ Catchable
Homer	King salmon	Ninilchik R (Ninilchik R)	12A-0079	12/31/2029	Ninilchik R	NA	Smolt
Homer	King salmon	Crooked Ck (Crooked Ck)	18A-0010	12/31/2027	Homer Spit (Nick Dudiak Fishing Lagoon)	NA	Smolt

Area	Species	Donor Stock (Ancestral Stock)	FTP #	Expiration Date	Release Description	Lake Category	Life Stage
Homer	King salmon	Crooked Ck (Crooked Ck)	18A-0012	12/31/2027	Seldovia Harbor	NA	Smolt
Homer	King salmon	Ninilchik R (Ninilchik R)	18A-0013	12/31/2027	Homer Spit (Nick Dudiak Fishing Lagoon)	NA	Smolt
Homer	King salmon	Ninilchik R (Ninilchik R)	18A-0015	12/31/2027	Seldovia Harbor	NA	Smolt
Homer	King salmon	Ship Ck (Ship Ck)	12A-0117	12/31/2027	Homer Spit (Nick Dudiak Fishing Lagoon)	NA	Smolt
Homer	King salmon	Ship Ck (Ship Ck)	12A-0119	12/31/2027	Seldovia Harbor	NA	Smolt
Homer	Coho salmon	Ship Ck (L. Susitna R)	13A-0041	12/31/2027	Homer Spit (Nick Dudiak Fishing Lagoon)	NA	Smolt
Kenai	Arctic char	WJHSFH (L. Aleknagik)	13A-0026	12/31/2028	Island L, Elephant (Spirit) L	1	2N Broodstock/ Catchable
Kenai	Arctic char	WJHSFH (L. Aleknagik)	20A-0018	12/31/2028	Carter L, Troop L, Upper Summit L, Vagt L.	3	3N Fingerling
Kenai	King salmon	Crooked Ck (Crooked Ck)	12A-0070	12/31/2029	Crooked Ck	NA	Smolt
Kenai	King salmon	Ship Ck (Ship Ck)	12A-0064	12/31/2029	Sport L	1	Catchable
Kenai	King salmon	Crooked Ck (Crooked Ck)	12A-0067	12/31/2029	Sport L	1	Catchable
Kenai	King salmon	Deception Ck (Willow Ck)	12A-0068	12/31/2029	Sport L	1	Catchable
Kenai	King salmon	Ninilchik R (Ninilchik R)	12A-0069	12/31/2029	Sport L	1	Catchable
Kenai	Coho salmon	Ship Ck (L. Susitna R)	12A-0071	12/31/2027	Arc L, Centennial L, Elephant (Spirit) L, Longmare L, Sport L	1	Fingerling/ Catchable
Kenai	Coho salmon	Bear Ck (Bear Ck)	12A-0073	12/31/2027	Arc L, Centennial L, Elephant (Spirit) L, Longmare L, Sport L	1	Fingerling/ Catchable
Kenai	Arctic grayling	Chena R (Chena R)	22A-0009	12/31/2032	Arc L, Scout L, Tirmore L, John Hedberg L	1	Fingerling/ Catchable
Kenai	Rainbow trout	WJHSFH (Swanson R)	16A-0031	12/31/2025	Aurora L, Barbara L, Cabin L, Centennial L, Chugach Est, Douglas L, Elephant (Spirit) L, Encelewski L, Island L, John Hedberg L, Johnson L, Longmare L, Loon L, Roque L, Scout L,	1	Fingerling/ Catchable/ Broodstock

Area	Species	Donor Stock (Ancestral Stock)	FTP #	Expiration Date	Release Description	Lake Category	Life Stage
					Sport L, Thetis L, Tirmore L, Kenai Peninsula Sport, Rec, and Trade Show		
Kenai	Rainbow trout	WJHSFH (Swanson R)	16A-0032	12/31/2025	Carter L, Long L, Meridian L, Rainbow L, Troop L, Upper Summit L, Vagt L	3	3N Fingerling
Mat-Su	Arctic char	WJHSFH (L. Aleknagik)	19A-0024	12/31/2028	Benka L, Carpenter L, Echo L, Finger L, Irene L, Kepler-Bradley L, Long L (Mi 86), Lynne L, Marion L, Matanuska L, Memory L, Prator L, Rush L, 17 mile L	1	Broodstock/ Catchable
Mat-Su	King salmon	Deception Ck (Willow Ck)	14A-0098	12/31/2029	Eklutna Tailrace	NA	Smolt
Mat-Su	King salmon	Ship Ck (Ship Ck)	12A-0006	12/31/2027	Eklutna Tailrace	NA	Smolt
Mat-Su	King salmon	Crooked Ck (Crooked Ck)	12A-0002	12/31/2027	Finger L, Knik L, Matanuska L, Memory L, Prator L, Victor L	1	Catchable/ fingerling
Mat-Su	King salmon	Deception Ck (Willow Ck)	12A-0003	12/31/2027	Finger L, Knik L, Matanuska L, Memory L, Prator L, Victor L	1	Catchable
Mat-Su	King salmon	Ninilchik R (Ninilchik R)	12A-0004	12/31/2027	Finger L, Knik L, Matanuska L, Memory L, Prator L, Victor L	1	Catchable
Mat-Su	King salmon	Ship Ck (Ship Ck)	12A-0005	12/31/2027	Finger L, Knik L, Matanuska L, Memory L, Prator L, Victor L	1	Catchable
Mat-Su	Coho salmon	Ship Ck (L. Susitna R)	12A-0009	12/31/2027	Barley L, Bear Paw L, Carpenter L, Christiansen L, Diamond L, Echo L, Johnson L, Kalmbach L, Klaire L, Loberg L, Victor L	1	Fingerling
Mat-Su	Coho salmon	Ship Ck (L. Susitna R)	12A-0010	12/31/2027	Gate L, Kashwitna L, Mile 180 L, Slipper L, Walby L, Willow L	2	Fingerling
Mat-Su	Coho salmon	Ship Ck (L. Susitna R)	12A-0011	12/31/2027	Lucille L, Seymour L, Wolf L	3	Fingerling
Mat-Su	Coho salmon	Ship Ck (L. Susitna R)	13A-0051	12/31/2027	Eklutna Tailrace	1	Smolt
Mat-Su	Grayling	Chena R (Chena R)	13A-0050	12/31/2025	Canoe L, Finger L, Florence L, Goober L, Ida L, Kepler/Bradley L, Knik L, Long L, Lorraine L, Meirs L, Ravine L, Reed L	1	Catchable

Area	Species	Donor Stock (Ancestral Stock)	FTP #	Expiration Date	Release Description	Lake Category	Life Stage
Mat-Su	Grayling	Chena R. (Chena R)	20A-0016	12/31/2030	Summit L	2	Catchable
Mat-Su	Rainbow trout	WJHSFH (Swanson R)	16A-0007	12/31/2025	Bruce L, Canoe L, Echo L, Irene L, Kepler/Bradley L, Knik L, Leech L, Loberg L, Long L (Mi86), Matanuska L, Meirs L, Memory L, Ravine L, Rocky L, Reed L	1	Broodstock/ Catchable
Mat-Su	Rainbow trout	WJHSFH (Swanson R)	16A-0008	12/31/2025	Barley L, Bear Paw L, Benka L, Boot L, Carpenter L, Christiansen L, Diamond L, Farmer L, Finger L, Florence L, Golden L, Goober L, Honeybee L, Ida L, Johnson L, Kalmbach L, Kings L, Knob L, L. Lonely L, Long L (K/B), Long L (Mi86), Lorraine L, Lynne L, Marion L, Matanuska L, Meirs L, Peggy L, Reed L, 17 mile L, Slipper L, Tigger L, Walby L, X L, Y L	1	Fingerling/ Broodstock
Mat-Su	Rainbow trout	WJHSFH (Swanson R)	16A-0009	12/31/2025	Anderson L, Coyote L, Gate L, Kashwitna L, Knob L, M. 180 L, N. Knob L, Reflections L, Slipper L, Summit L, Walby L, Weiner L, Willow L	2	Catchable
Mat-Su	Rainbow trout	WJHSFH (Swanson R)	16A-0010	12/31/2025	Bench L, Beverly L, Big Beaver L, Bocker L, Buck L, Butterfly L, Cranberry L, Crooked L, Lalen L, L. Beaver L, N. Friend L, N. Rolly L, Rhein L, Ruby L, S. Friend L, Threemile L, Twin Island L, Vera L, Visnaw L, Weiner L, W. Beaver L, W. Sunshine L, Wishbone L, Zero L.	2	Fingerling
Mat-Su	Rainbow trout	WJHSFH (Swanson R)	16A-0011	12/31/2025	Crystal L, Lucille L, South Rolly L, Tanaina L	3	Catchable

Area	Species	Donor Stock (Ancestral Stock)	FTP #	Expiration Date	Release Description	Lake Category	Life Stage
Mat-Su	Rainbow trout	WJHSFH (Swanson R)	16A-0012	12/31/2025	Caswell #3 L, Crystal L, Dawn L, Homestead L, Loon L, Lucille L, Morvo L, Seymour L, Wolf L	3	Fingerling
PWS	King salmon	Crooked Ck (Crooked Ck)	20A-0014	12/31/2029	Fleming Spit (Cordova)	NA	Smolt
PWS	King salmon	Ship Ck (Ship Ck)	12A-0094	12/31/2029	Fleming Spit (Cordova)	NA	Smolt
PWS	King salmon	Ninilchik R (Ninilchik R)	19A-0022	12/31/2029	Fleming Spit (Cordova)	NA	Smolt
PWS	King salmon	Ninilchik R (Ninilchik R)	19A-0021	12/31/2029	Whittier Harbor	NA	Smolt
PWS	King salmon	Deception Ck (Willow Ck)	12A-0098	12/31/2029	Whittier Harbor	NA	Smolt
PWS	King salmon	Crooked Ck (Crooked Ck)	20A-0015	12/31/2029	Whittier Harbor	NA	Smolt
PWS	King salmon	Ship Ck (Ship Ck)	12A-0099	12/31/2029	Whittier Harbor	NA	Smolt
PWS	Rainbow trout	WJHSFH (Swanson R)	16A-0046	12/31/2023	Ruth L	1	3N Catchable
PWS	Rainbow trout	WJHSFH (Swanson R)	16A-0045	12/31/2023	Ruth L	1	2N Catchable Broodstock
PWS	Rainbow trout	WJHSFH (Swanson R)	16A-0047	12/31/2023	Blueberry L, Thompson L	5	3N Catchable
Res Bay	King salmon	Ship Ck (Ship Ck)	12A-0090	12/31/2029	Lowell Ck	NA	Smolt
Res Bay	King salmon	Crooked Ck (Crooked Ck)	12A-0091	12/31/2029	Seward Lagoon	NA	Smolt
Res Bay	King salmon	Ship Ck (Ship Ck)	12A-0092	12/31/2029	Seward Lagoon	NA	Smolt
Res Bay	King salmon	Ninilchik R (Ninilchik R)	19A-0020	12/31/2029	Seward Lagoon	NA	Smolt
Res Bay	King Salmon	Ninilchik R (Ninilchik R)	19A-0023	12/31/2029	Lowell Ck	NA	Smolt
Res Bay	King salmon	Crooked Ck (Crooked Ck)	12A-0093	12/31/2029	Lowell Ck	NA	Smolt
Res Bay	Coho salmon	Bear Ck (Bear Ck)	18A-0030	12/31/2027	Seward Lagoon	NA	Smolt
Res Bay	Rainbow trout	WJHSFH (Swanson R)	16A-0048	12/31/2023	Derby: 1st L	3	Catchable
Anchorage	Arctic char	WJHSFH (L. Aleknagik)	15A-0046	12/31/2025	315,000 Egg take @ WJHSFH	NA	Green eggs

Area	Species	Donor Stock (Ancestral Stock)	FTP #	Expiration Date	Release Description	Lake Category	Life Stage
Fairbanks	Arctic char	WJHSFH (L. Aleknagik)	14A-0015 ^a	12/31/2024	214,000 Transfer: WJHSFH to RBSFH (3N MX)	NA	Eyed eggs
Kenai	King salmon	Crooked Ck (Crooked Ck)	11A-0013	12/31/2029	1,740,000 Egg take @ Crooked Creek	NA	Green eggs
Anchorage	King salmon	Ship Ck (Ship Ck)	11A-0017	12/31/2029	2,400,000 Egg take @ Ship Creek	NA	Green eggs
Homer	King salmon	Ninilchik R (Ninilchik R)	11A-0026	12/31/2029	1,500,000 Egg take @ Ninilchik River	NA	Green eggs
Mat-Su	King salmon	Deception Ck (Willow Ck)	11A-0045	12/31/2029	1,560,000 Egg take @ Deception Creek	NA	Green eggs
Anchorage	Coho salmon	Ship Ck (L. Susitna R)	11A-0019	12/31/2027	1,120,000 Egg take @ Ship Creek	NA	Green eggs
Seward	Coho salmon	Bear Ck (Bear Ck)	11A-0016	12/31/2027	730,000 Egg take @ Bear Creek	NA	Green eggs
Fairbanks	Grayling	Chena R (Chena R)	12A-0106	12/31/2031	170,000 Egg take @ Chena River	NA	Green eggs
Fairbanks	Grayling	Goodpaster R (Goodpaster R)	12A-0107	12/31/2031	170,000 Egg take @ Goodpaster River	NA	Green eggs
Anchorage	Rainbow trout	WJHSFH (Swanson R)	14A-0032	12/31/2023	3,500,000 Egg take @ WJHSFH	NA	Green eggs
Fairbanks	Rainbow trout	WJHSFH (Swanson R)	13A-0007	12/31/2023	1,079,000 Transfer: WJHSFH to RBSFH (3N AF)	NA	Eggs/ Fry/ Fingerlings
Kodiak	Rainbow trout	WJHSFH (Swanson R)	18A-0016 ^b	12/31/2023	200,000 Transfer: WJHSFH to Pillar Creek Hatchery + release	1	Eyed eggs
Kodiak	Rainbow trout	WJHSFH (Swanson R)	18A-0017 ^b	12/31/2023	200,000 Transfer: WJHSFH to Pillar Creek Hatchery + release	2	Eyed eggs
Kodiak	Rainbow trout	WJHSFH (Swanson R)	18A-0018 ^b	12/31/2023	200,000 Transfer: WJHSFH to Pillar Creek Hatchery + release	3	Eyed eggs
Ketchikan	Rainbow trout	WJHSFH (Swanson R)	20J-1001 ^c	12/31/2029	200,000 Transfer: WJHSFH to Deer Mountain Hatchery	NA	Eyed eggs

^aIssued to Ruth Burnett Sport Fish Hatchery.

^bIssued to Pillar Creek Hatchery operated by Kodiak Regional Aquaculture Association.

^cIssued to Deer Mountain Hatchery operated by Southern Southeast Regional Aquaculture Association.

Notes: PWS = Prince William Sound; Res Bay = Resurrection Bay; WJHSFH = William Jack Hernandez Sport Fish Hatchery; RBSFH = Ruth Burnett Sport Fish Hatchery; 2N = Diploid, 3N = Triploid, MX – Mixed sex, AF = All female, GASS = Great Alaskan Sportsman Show (Anchorage). To be applied for Needs amending

Table 9.–Projected 2023 harvest from Division of Sport Fish stocking projects.

Release Site	Projected Harvest					
	King Salmon	Coho Salmon	Rainbow Trout	Arctic Char	Arctic Grayling	Landlocked Salmon
Northern Cook Inlet						
Ship Creek ¹	1,601	6,518				
Bird Creek ¹		2,812				
Campbell Creek ²		Not available				
Eklutna Tailrace ¹	576	592				
Central/Lower Cook Inlet						
Crooked Creek ²	Not available					
Kachemak Bay						
Seldovia ³	Not available					
Homer Spit ⁴	902	1,381				
Ninilchik ²	Not available					
Resurrection Bay						
Resurrection Bay	290 ⁴	7412 ⁴				
Prince William Sound						
Cordova ⁶	Not available					
Whittier ⁶	Not available					
Lake Stocking						
All Areas ¹			19,958	677	116	5,013

¹ Harvest estimate is the most recently published (2021) Statewide Harvest Survey (SWHS) estimate.

² Hatchery contribution to the sport fish harvest is not estimated.

³ Harvest at this release site is not reported separately in the SWHS.

⁴ Harvest estimate is the most recently published (2021) SWHS shoreline estimate. The reported number does not include the undetermined contribution of adult salmon returning from hatchery releases to boat-based sport fisheries.

⁵ Harvest estimate is the most recently published (2021) SWHS shoreline estimate. The reported number does not include the undetermined contribution of adult salmon returning from ADF&G hatchery releases to boat-based sport fisheries.

Boat based sport fish harvest also includes fish from Cook Inlet Aquaculture Assoc. releases and natural production.

⁶ The sport fish harvest for this release cannot be determined as these fish may be harvested during winter feeder king fisheries.

Table 10.–Otolith-mark groups and release sites for thermally marked coho and king salmon to be released in 2023.

Species	Release Site	Mark Group	Thermal Mark Code	Donor Stock
King salmon	Ninilchik River ¹	Cook Inlet	2,3H4	Ninilchik River
	Seldovia	Cook Inlet	2,3H	Ninilchik River
	Homer Spit	Cook Inlet	2,3H	Ninilchik River
	Eklutna Tailrace	Cook Inlet	2,3H	Ship Creek
	Ship Creek ²	Cook Inlet	2,3H3	Ship Creek
	Cordova	Prince William Sound	2,4H	Ship Creek
	Whittier	Prince William Sound	2,4H	Ship Creek
	Seward Lagoon	Resurrection Bay	2,5H	Crooked Creek
	Crooked Creek	Cook Inlet	2,3H	Crooked Creek
Coho salmon	Homer Spit	Cook Inlet	1,5H	Ship Cr (Little Susitna River)
	Ship Creek	Cook Inlet	1,5H	Ship Cr (Little Susitna River)
	Bird Creek	Cook Inlet	1,5H	Ship Cr (Little Susitna River)
	Campbell Creek	Cook Inlet	1,5H	Ship Cr (Little Susitna River)
	Eklutna Tailrace	Cook Inlet	1,5H	Ship Cr (Little Susitna River)
	Seward Lagoon	Resurrection Bay	2,4H	Bear Lake

¹ Smolt for the Ninilchik River release received a post-hatch accessory thermal mark that will be used to identify the source(s) (Ninilchik River and/or Crooked Creek) of hatchery strays into Deep Creek and Anchor River.

² Smolt released into Ship Creek will receive a post hatch accessory thermal mark that will be used to identify brood source.