William Jack Hernandez
Sport Fish Hatchery

941 N. Reeve Blvd. | Anchorage, AK 99501

The 141,000-square-foot William Jack Hernandez Sport Fish Hatchery is the heart of Alaska's sport fish stocking program and the largest indoor sport fish hatchery in North America. The facility includes more than 100 fish-rearing tanks for Chinook and Coho salmon, rainbow trout, Arctic char, and Arctic grayling, supporting Alaska's vital fishing industry. Producing more than six million fish, this single facility is able to stock 200 different locations. State-of-the-art water recirculation technologies use approximately five percent of the water required in a conventional hatchery, allowing the Alaska Department of Fish and Game to meet its mission in a cost-effective and sustainable manner.

Alaska Department of Fish and Game, Division of Sport Fish
Hatchery Owner and Operator

Alaska Department of Transportation and Public Facilities
Project Delivery Manager

141,000 square-foot facility | **8-acre** site

N

Reclaimed brownfield site

All hatchery operations housed in one building

Re-Pump Facility

Intake Building

Existing Dam

107 tanks rear more than 6 million fish per year

Largest application of water reuse technology in a state-operated hatchery

Visitor Viewing

Adult Holding Ponds

300-foot-long visitors' center overlooks all processes and programs

Stocking Raceway

SHIP CREEK

Representative artwork is spread throughout the facility

Water treatment keeps Ship Creek clean

ENVISION™ GOLD

The William Jack Hernandez Sport Fish Hatchery received the first-ever Envision™ Project Award.

The Envision™ sustainable infrastructure rating system is the first holistic framework for sustainability of infrastructure. Envision™ is a product of a strategic alliance & collaboration of several organizations, including the Institute for Sustainable Infrastructure (ISI) a non-profit organization co-founded by the American Public Works Association, the American Society of Civil Engineers, and the American Council of Engineering Companies, along with the Zofnass Program for Sustainable Infrastructure at the Harvard University Graduate School of Design.

William Jack Hernandez Sport Fish Hatchery

Operations

FACILITY

- Hatchery grows all phases of fish life in a single building
- Approximately 600 feet long and 200 feet wide
- Covers nearly three acres, housing rearing vessels, treatment modules and support activities
- Accommodates production of more than 6 million fish each year
- State-of-the-art recirculation technology saves up to 95 percent of water compared to conventional hatcheries
- Generators and switch gear provide redundancy inside the hatchery to bring pumping systems back online in less than two minutes, preventing the catastrophic loss of fish in the event of power outage

FISH

- Rearing produces Chinook and Coho salmon, rainbow trout, Arctic char and Arctic grayling
- Released throughout south central Alaska from Cordova to Kodiak, Homer, Kenai, Seward, Anchorage, Mat/Su and Talkeetna
- Salmon and trout grow faster in warm water than in cold. To ensure the availability of catchable size fish when they are needed for stocking controlling water temperature is crucial. While the WJH Hatchery site afforded access to a high-quality groundwater source, it is cold—39 degrees Fahrenheit. To reach the optimal rearing temperature of 55 degrees Fahrenheit, water heating is required. By recirculating up to 95 percent of the rearing water, water heating is minimized and affordable.

Sustainability

Sustainability guided the vision and development of every aspect of the hatchery. All facets of building and site design incorporated sustainability principles that will last far into the future. Sustainability considerations included:

IMPROVING COMMUNITY QUALITY OF LIFE

- Economic and Social Benefits
  - Recreation
  - Jobs
  - Tax revenue
  - Income
  - Enhancing the environment
- Improved visitor safety and experience
  - Redesigned traffic flow and parking with crosswalks
  - Pathways around the building
  - ADA accessible viewing platforms and trails
- Public education integral in building design
  - Visitors' center with displays
  - Trails with interpretive kiosks
  - Outdoor viewing area where salmon rest below a dam

PRESERVING GREENFIELDS

- Building on a reclaimed brownfield site benefits the environment and public by leaving the area cleaner than before development

USING RECYCLED MATERIALS

- Used recycled content building materials
- Reused existing staff housing, process water treatment, fish ladders and raceways

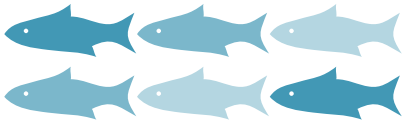
REDUCING ENERGY CONSUMPTION SIGNIFICANTLY OVER TRADITIONAL HATCHERIES

- Recirculation technology greatly reduces heating and pumping costs
- Locating all hatchery operations within a single building provides tremendous opportunities for energy conservation
- Performance monitoring through a custom application maximizes control of energy and minimizes water use

PROTECTING FRESHWATER AVAILABILITY

- Storm and process water treatment prevents surface and ground water contamination, keeping Ship Creek clean
- Recirculation technology saves water and energy
- Anchorage's drinking water supply protected through:
  - Updating of the regional groundwater model to document no negative impacts from hatchery use
  - Minimizing groundwater needs through water reuse
  - Properly abandoning old, unneeded wells

William Jack Hernandez Sport Fish Hatchery Highlights

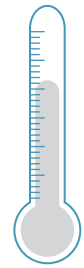


6 Million
fish raised each year
doubling the production of the two facilities it replaces

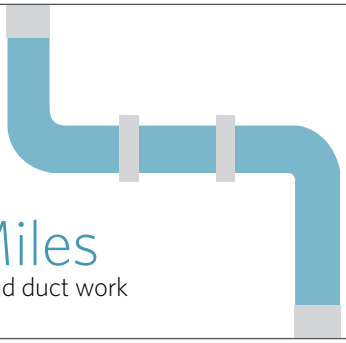
1st
Project Ever Awarded an Envision™ Rating

107
tanks

35
mini hatcheries



55° Fahrenheit
Optimal temperatures for rearing cold water species capable of surviving in Alaska's cold waters



over
8.5 Miles
of pipe, conduit and duct work

Annually, the fishing industry contributes
$545 Million in income
$1.4 Billion to Alaska's economy

54 Million
gallons per day are saved through water reuse during peak-use periods

LARGEST
hatchery of its kind in North America

Fish used to stock
200 different locations

95%
reduction in water use
compared to conventional fish culture

5%
of energy use
for water heating in major systems compared to single-pass fish culture

Awards

- 2013 – American Society of Civil Engineers/ World Headquarters (ASCE), Outstanding Civil Engineering Achievement (OCEA) Award, Finalist, National
- 2012 – American Council of Engineering Companies (ACEC), Engineering Excellence Awards, National Recognition
- 2010 – Peg and Jules Tileston Award for Economic Development and Environmental Stewardship