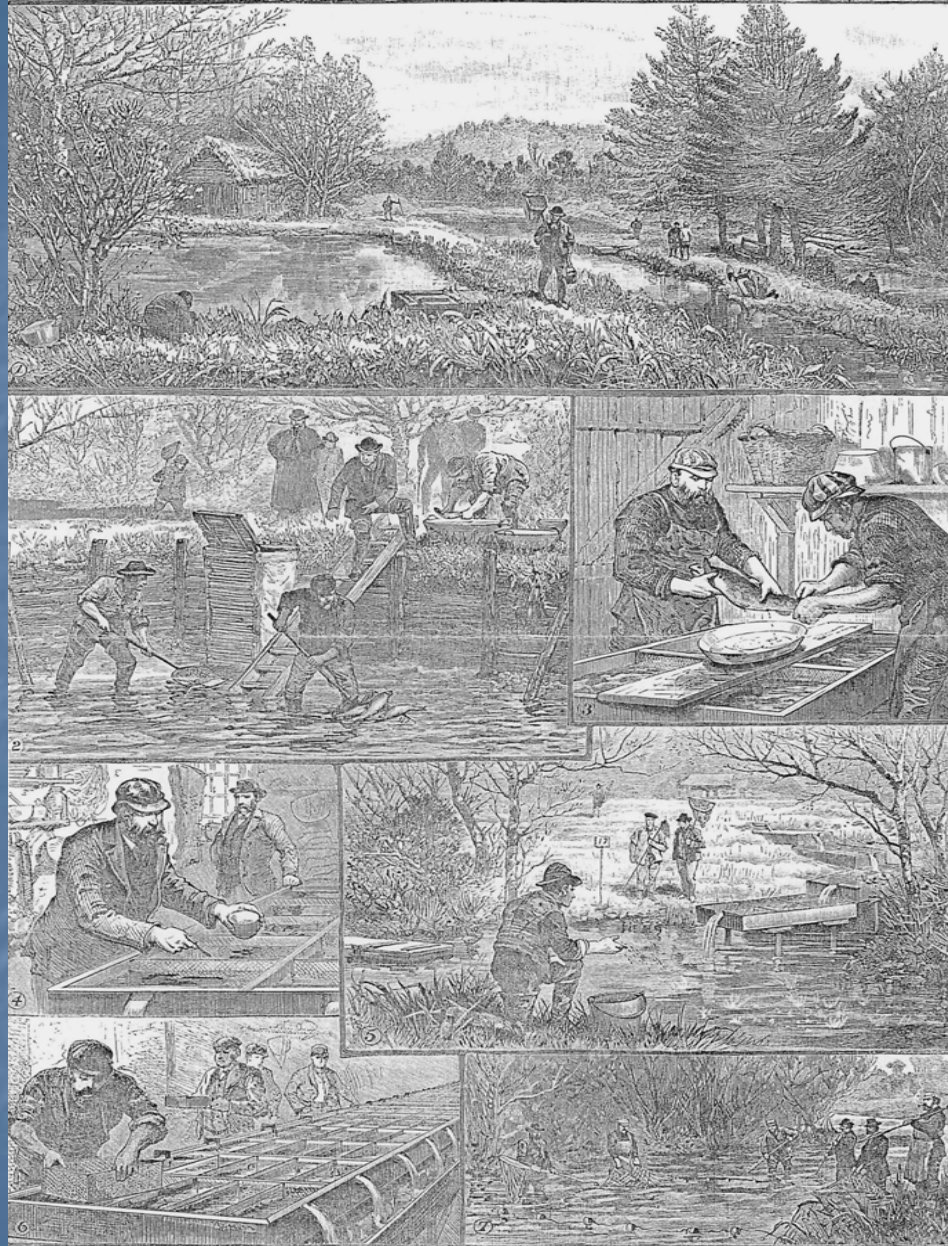


# Hatchery Academy



The Illustrated London News March 1, 1890



# Catching Fish to Spawn









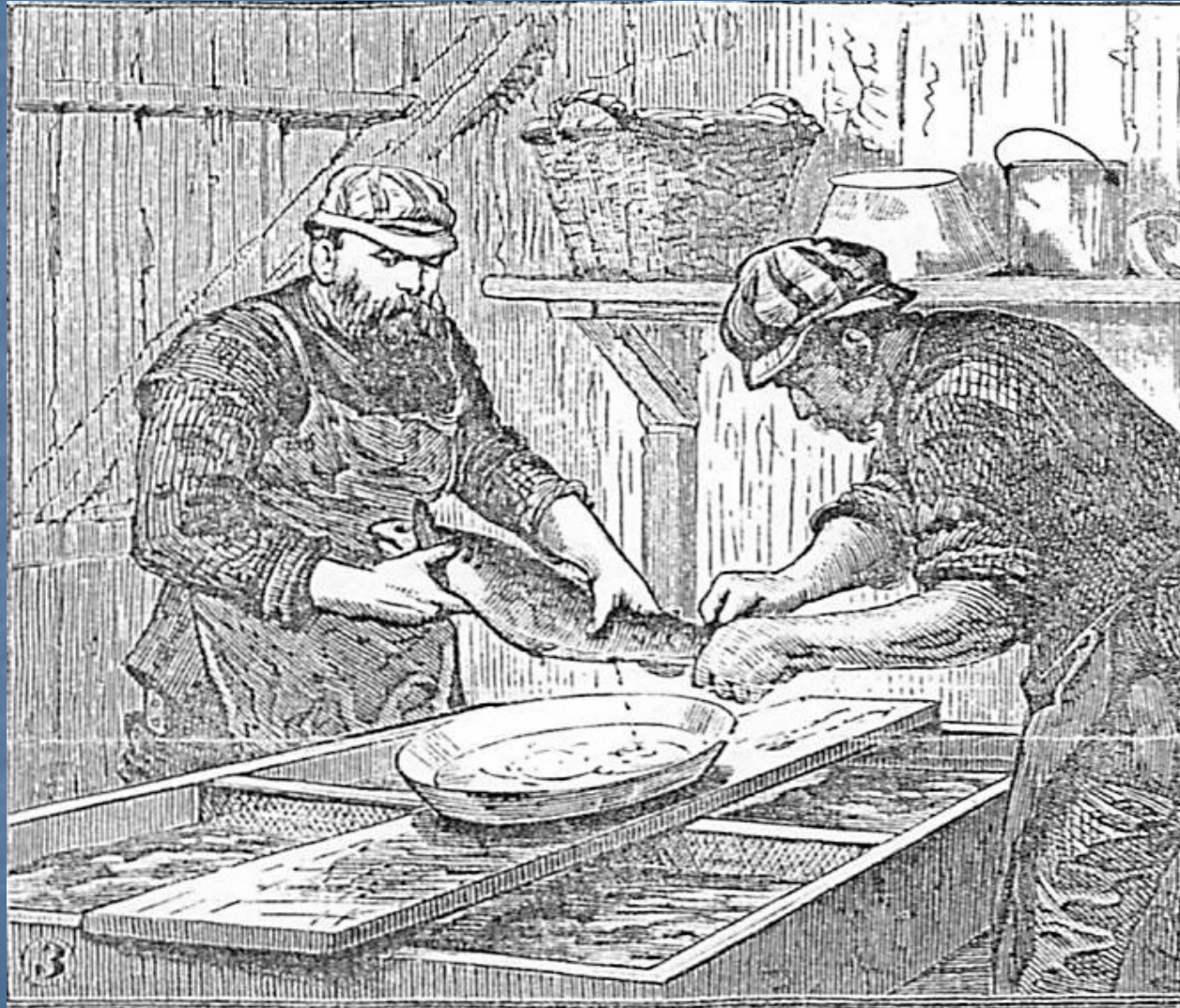








# Spawning





# Some Things Never Change

(100 years later)





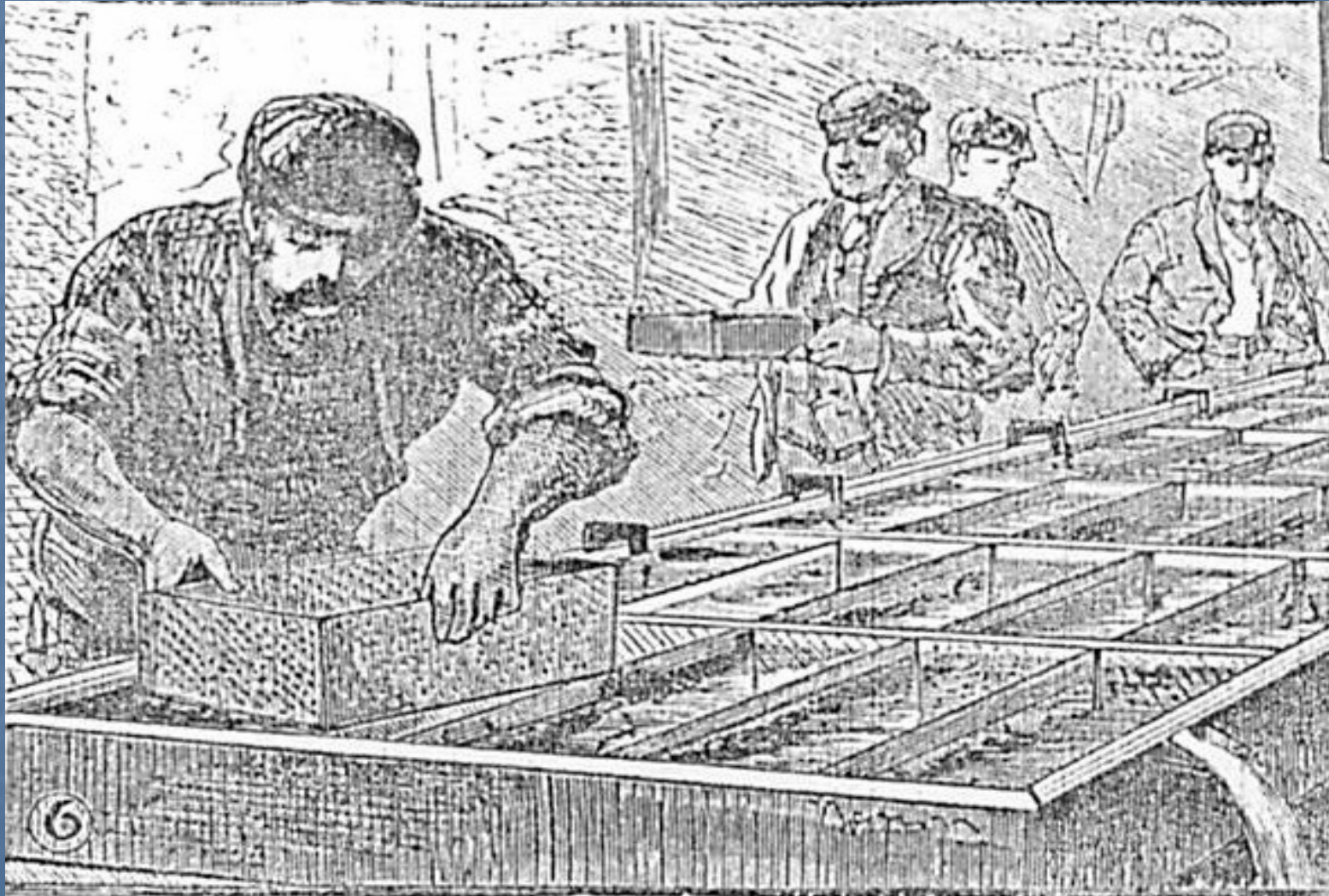








# Hatching House





























# Feeding the fish





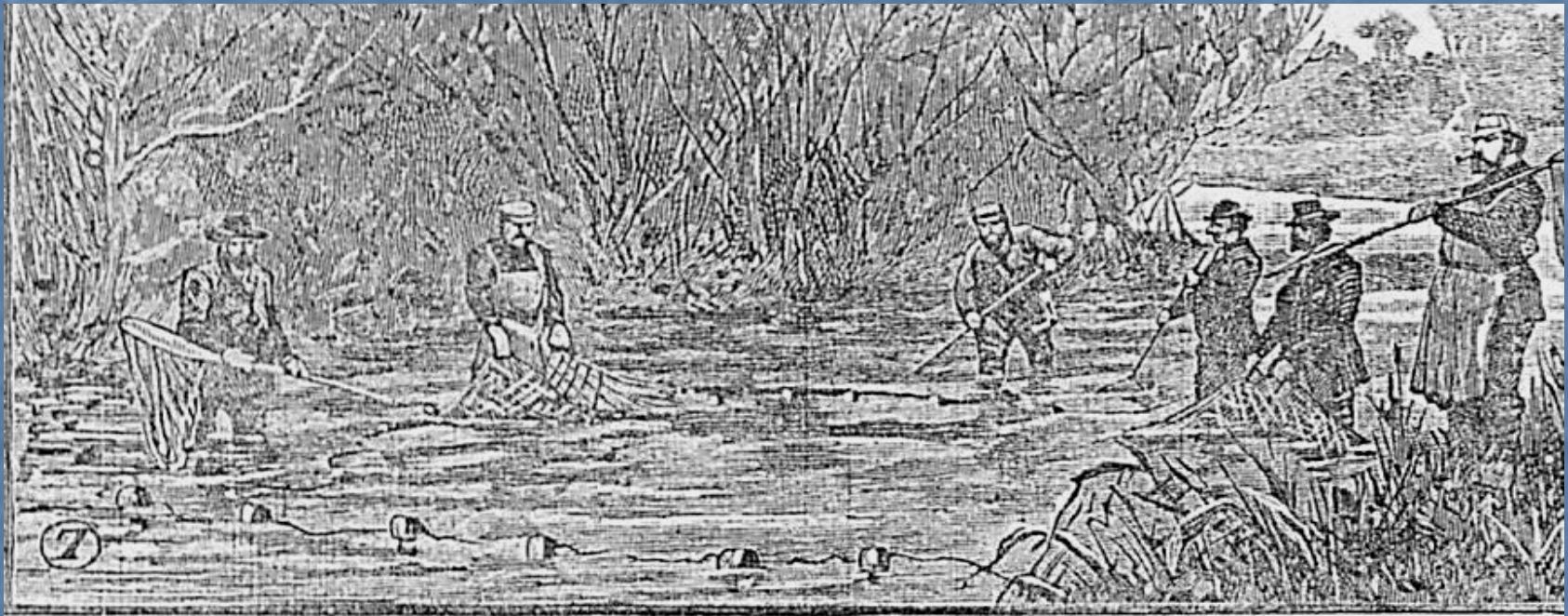








# Crowding Fish













# Releasing Fish









































**Spawn Fish**

**Hatch Eggs**

**Rear Fish**

**Stock Fish**

**Simple....right?!?.....**



**Not....!!**

**Otolith Marking**

*Pit Tag*

**HGMP's**

Dry Spawn

**ESA**

**Triploid's**

**Constant Fractional Marking**

**EIR/EIS**

**Spawning Protocol**

**Fitness**

**Inbreeding**

**Run Timing**

**Stocking Density**

**Sperm Extender**

**Hatchery Management Plan**

**Stock Selection**

**Genetic Risk Assessment**

**Water Samples**

**TMDL's**

**Reports, reports & more reports!!**

**CEQA**

**CWT**

**NPDES**

**Gene Flow**

**Catch Per Unit Effort**

**Tribal Trust**





**What the....???**







# **Hatchery Training Committee**

**Advisor - Judy Urrutia** (Fisheries Branch - Sacramento)

**OTD Consultant - Christell Bechtold** (OTD - Sacramento)

**Chairman - Kim Rushton** (R-1 - Iron Gate Hatchery)

**Member - Eric Jones** (R-1 - Crystal Lake Hatchery)

**Member - Bill Smith** (R-2 - Mokelumne River Hatchery)

**Member - Gary Novak** (R-2 - American River Hatchery)

**Member - Ellen McKenna** (R-3 - Warm Springs Hatchery)

**Member - Ron Samra** (R-4 - San Joaquin Hatchery)

**Member - Matt Norris** (R-6 - Fish Springs Hatchery)



# **“Hatchery Academy”**

## **Mission Statement**

**“The mission of the Hatchery Academy is to pass along valuable information, knowledge and skills from the Department’s senior Fish & Wildlife Technicians, Fish Hatchery Managers, Senior Hatchery Supervisors and other specialists (Succession Planning), provide training for better promotional opportunities, standardize some hatchery procedures and provide for exchange of information between facilities, employees, and instructors.”**



# **Fish Hatchery System**

## **(Section 1)**

- > DFG organization charts - where does the hatchery system fit**
- > Fish hatchery history - the evolution of the California fish hatchery system**
- > Fish and Game Code and policy as it relates to hatcheries**
- > Federal policies and how they effect CDFG fish hatcheries**
- > Fishing regulations (Commercial & Sport) - how they effect hatcheries**
- > Stocking allotments-what are they, how are they determined**
- > AB-7 & Hatchery & Inland Fishery Fund (HIFF)**

**(Larger classes: ½ - 1 day at OTD and/or by Region)**











# **Fish Facilities & Structures**

## **(Section 2)**

- > Water Systems Operations**
  - > Hatchery designs and equipment**
  - > Troughs/Tanks/Ponds**
  - > Screens**
  - > Spawning facilities**

(Larger classes: ½ - 1 day at OTD and/or Regions)



# Fish Husbandry Skills

## (Section 3)

### Spawning Basics – Module A

#### > Spawning techniques overview

#### > Anesthetics

#### > Sorting for ripeness

#### > Handling of fish

#### > Caring for eggs

- Washing of eggs
- Disinfecting
- Water hardening
- Measuring and counting
- Densities
- Incubation (e.g. vertical flow, hatch jars, etc.)
- Record keeping

(Small classes: 1 – 2 days – some classroom = mostly “hands on” at a hatchery)











# Fish Husbandry Skills

## (Section 3)

### Care of Eggs - Module B

#### > Fungus control

#### > Daily care

#### > Addling and picking of eggs

#### > Picking equipment and techniques

#### > Shipping and receiving of eggs

#### > Caring for sack fry

(Small Classes: ½ - 1 day - some classroom & some “hands on”)



# Fish Husbandry Skills

## (Section 3)

### Caring of Fry & Fish- Module C

- > Setting fish out

- >Feeding

- >Fish behavior while feeding & cleaning

- >Weight counts

- >Grading fish

- >Cleaning of Troughs, Tanks, Ponds, etc.

- > \*Diseases and disease ID \*Pathology  
may have classes with more in depth information  
and training

(General Information in larger classes – “hands on”  
at assigned hatchery or through cross training  
assignments)







# Fish Husbandry Skills

## (Section 4)

### Stocking of Fish

#### >Equipment used and operation of

- Vehicles
- Aeration systems
- Fish pumps
- Crowding equipment

#### >Pre-Trip inspection

#### >Crowding methods

#### >Stocking criteria

#### >Emergency procedures

#### >Disinfecting of equipment

(General Information in larger classes – “hands on” at assigned hatchery or through cross training assignments)



# Other Training

- >National Pollutant Discharge Elimination System (NPDES) permits and associated testing
- >Hatchery program and computers
  - >Hazardous aquatic critical containment plan (HACCP)
  - >Hatchery genetics management plans (HGMP)
- > We will be seeking ideas and input from you to help us develop the **“Hatchery Academy”**















