

# Hydropower Licensing Training FWS ,Hadley, MA

February 24-26, 2015

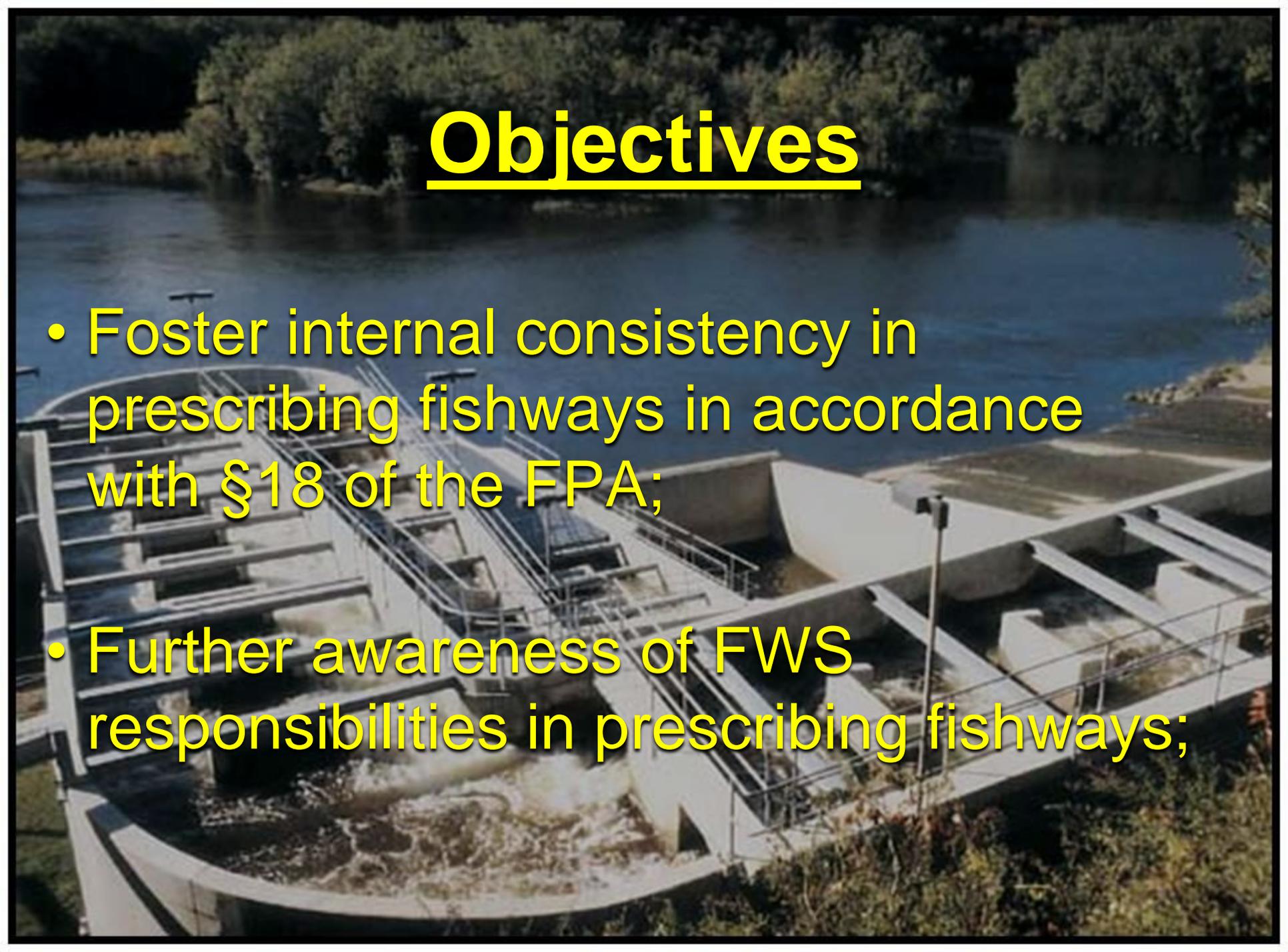
## **Fishways and the Fishway Prescription Process**

Presented by: Alex Hoar

U.S. Fish and Wildlife Service  
Regional Hydropower Coordinator  
Northeast Regional Office (R5)  
413-253-8631; [Alex\\_Hoar@fws.gov](mailto:Alex_Hoar@fws.gov)

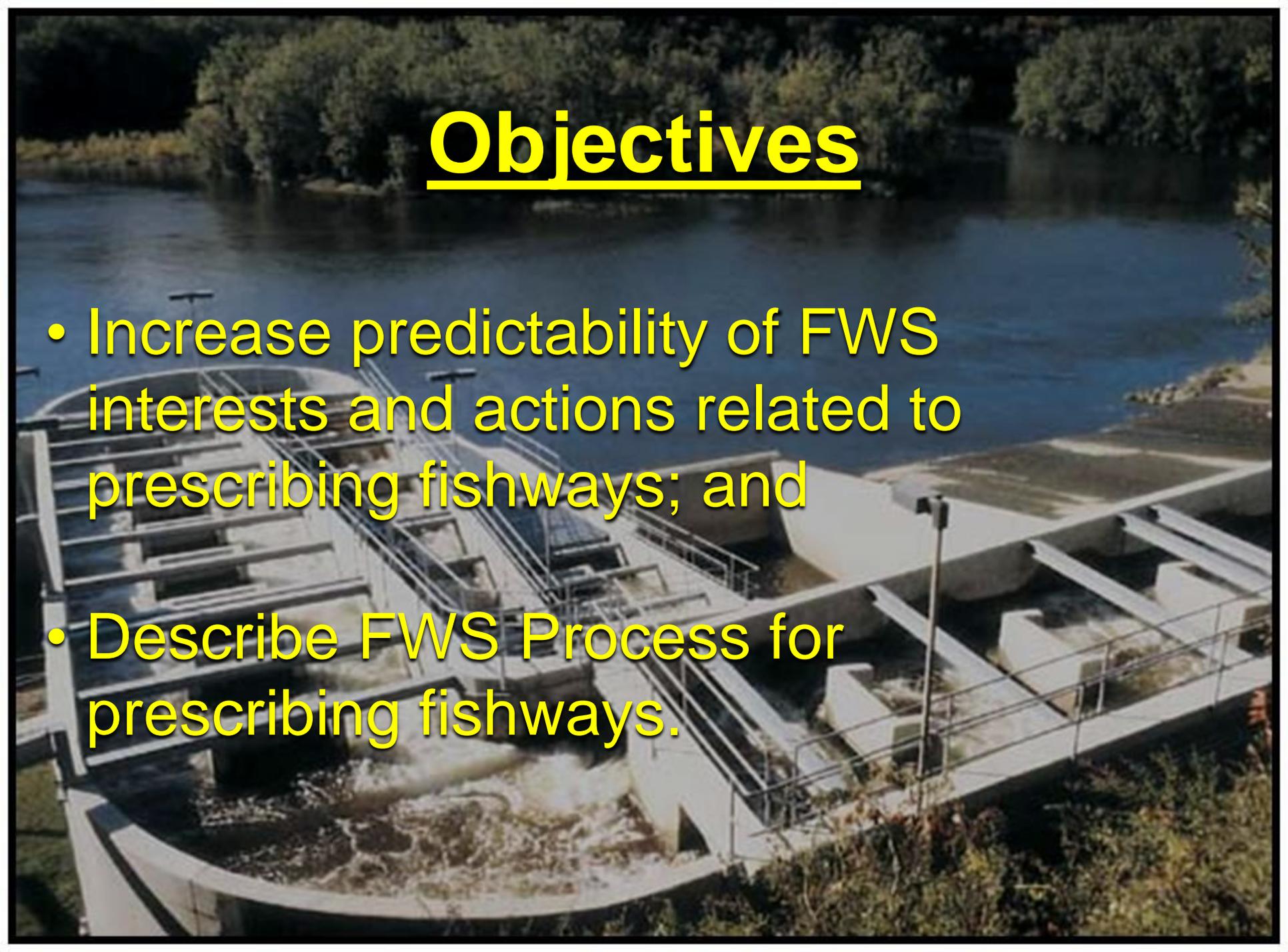
# Objectives

- Foster internal consistency in prescribing fishways in accordance with §18 of the FPA;
- Further awareness of FWS responsibilities in prescribing fishways;



# Objectives

- Increase predictability of FWS interests and actions related to prescribing fishways; and
- Describe FWS Process for prescribing fishways.



# What Will Be Covered

- Statutory Background
- Purpose of a Fishway
- Fishway Definition
- Fishway Elements
- Fishway Prescription Process

# Statutory Background

Since 1920, Section 18 of the Federal Power Act has remained the same, and states in pertinent part:

“.... The Commission shall require the construction, maintenance, and operation by a licensee of ... such fishways as may be prescribed by the Secretary of Commerce or the Secretary of the Interior.”



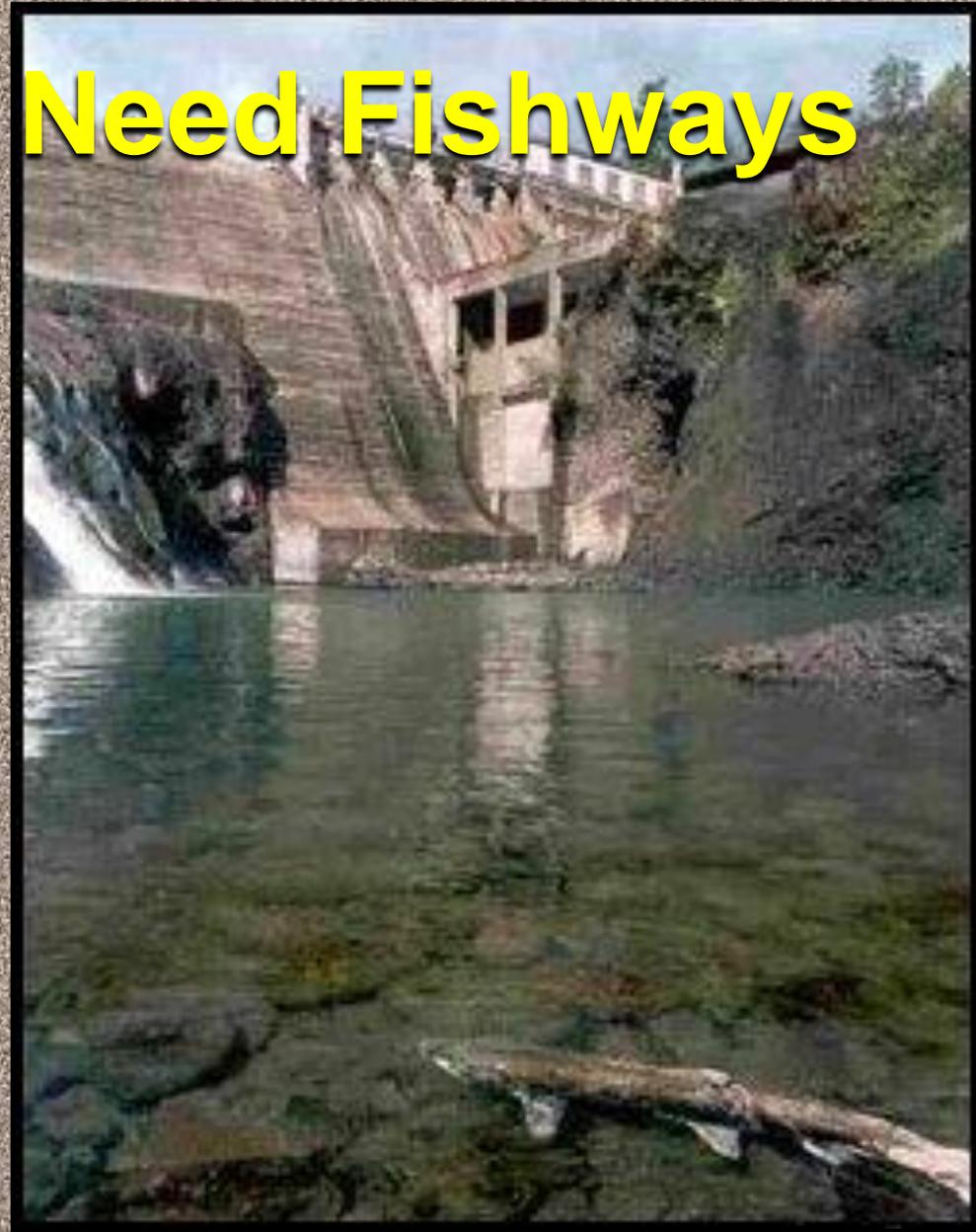
# Why Do Dams Need Fishways



# Why Do Dams Need Fishways

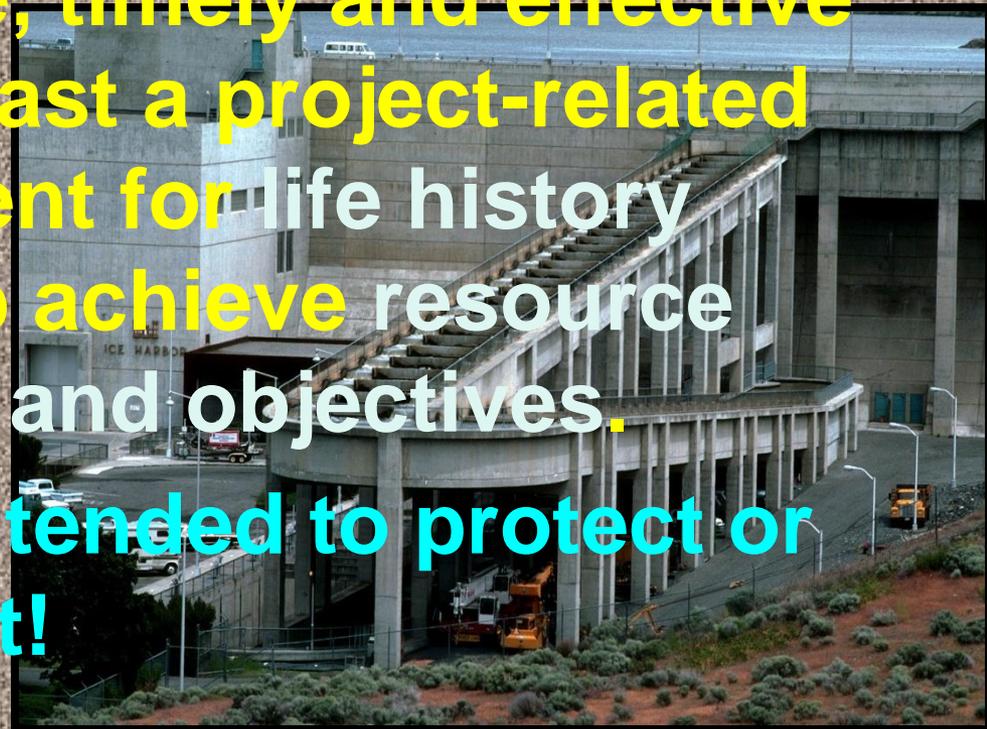
Dams can:

- Fragment river systems;
- Impede or block fish movement;
- Kill or injure fish.



# What Do Fishways Do?

- Provide access for fish to and from the habitats upon which they depend;
- Provide for the safe, timely and effective movement of fish past a project-related barrier or impediment for life history purposes or to help achieve resource management goals and objectives.
- Fishways are not intended to protect or improve fish habitat!



# What Do Fishways Do?

## Life History Purposes

Life history purposes for fish movement include, but may not be limited to:

- Spawning,
- Rearing,
- Feeding,
- Growth to maturity,
- Dispersion,
- Migration,
- Seasonal use of habitat
- Fish host species for mussels.



# What Do Fishways Do?

## Resource Goals and Objectives

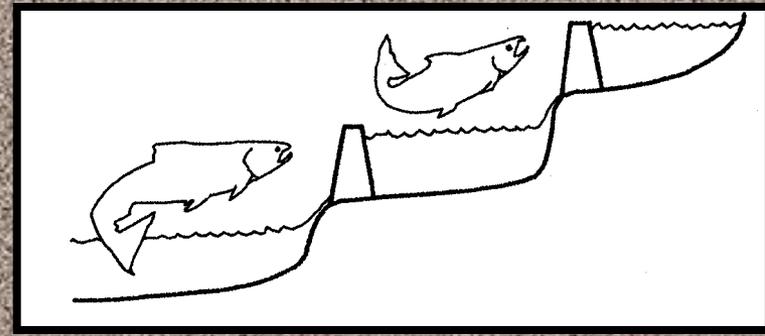
- Resource management goals and objectives may be identified in:
  - National, regional, or watershed level planning documents;
  - Recovery plans;
  - Comprehensive Plans filed with FERC;
- or as may be established by the FWS on a site specific basis.

# Fundamental Purpose of a Fishway Resource Goals and Objectives

- Fishways may also be necessary to protect tribal resources for the exercise of American Indian rights.



# Fishway Definition

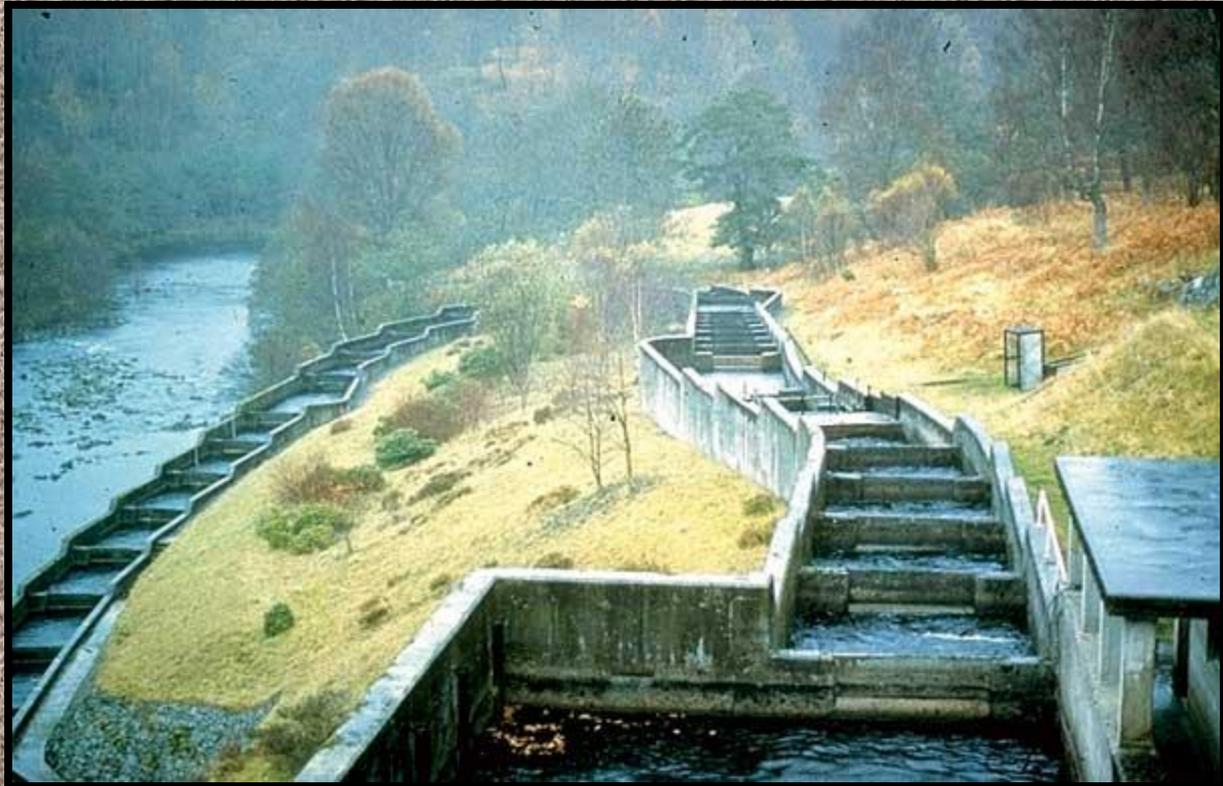


In 1992, Congress provided guidance on what constitutes a fishway in the National Energy Policy Act, Section 1701(b):

“... the items which may constitute a “fishway” under section 18 for the safe and timely upstream and downstream passage of fish shall be limited to physical structures, facilities, and devices necessary to maintain all life stages of such fish, and project operations and measures related to such structures, facilities, or devices which are necessary to ensure the effectiveness of such structures, facilities, or devices for such fish.”

# Fishway Definition

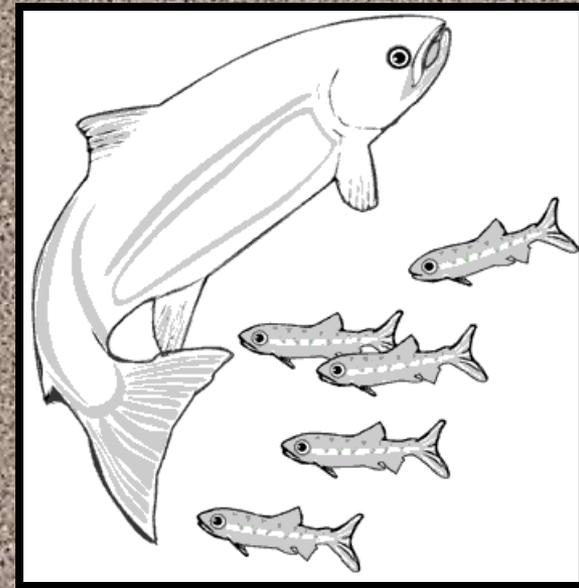
A fishway is defined by its purpose and its parts.



# Fishway Definition

## Purpose of a Fishway

“... the items which may constitute a “fishway” under section 18 for the safe and timely upstream and downstream passage of fish shall be limited to physical structures, facilities, and devices necessary to maintain all life stages of such fish, and project operations and measures related to such structures, facilities, or devices which are necessary to ensure the effectiveness of such structures, facilities, or devices for such fish.”



# Fishway Definition

## Purpose of a Fishway

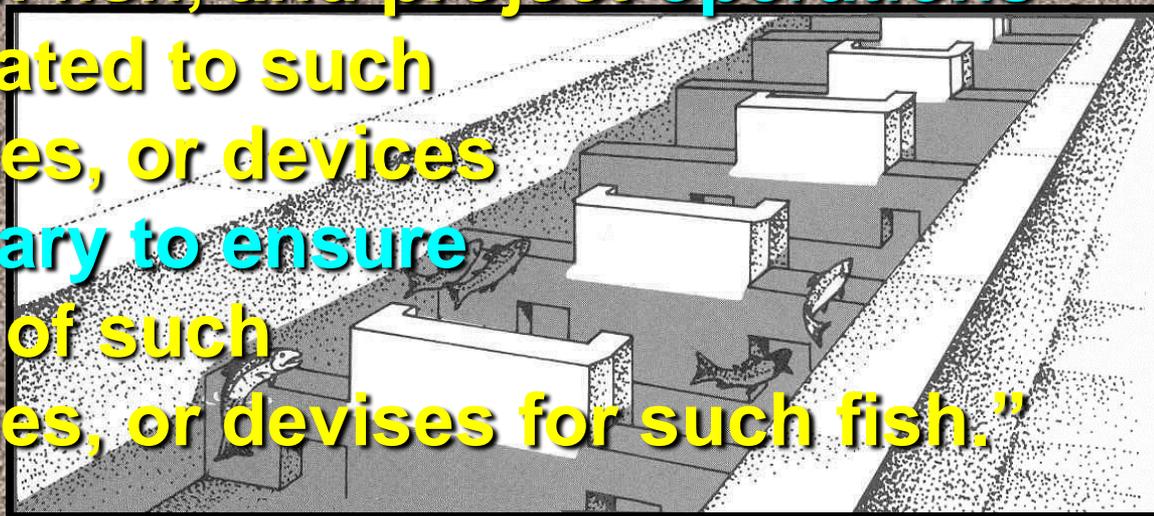
- Safe and timely
- Upstream and downstream
- All Fish
- All Life stages
- Effective

**Safe and Timely Movement of Fish!!!**

# Fishway Definition

## Elements (Parts) of a Fishway

“... the **items** which may constitute a “fishway” under section 18 for the safe and timely upstream and downstream passage of fish shall be limited to **physical structures, facilities, and devices** necessary to maintain all life stages of such fish, and **project operations and measures** related to such structures, facilities, or devices which are **necessary to ensure the effectiveness of such structures, facilities, or devices for such fish.**”



# Fishway Definition

## Five Elements of a Fishway

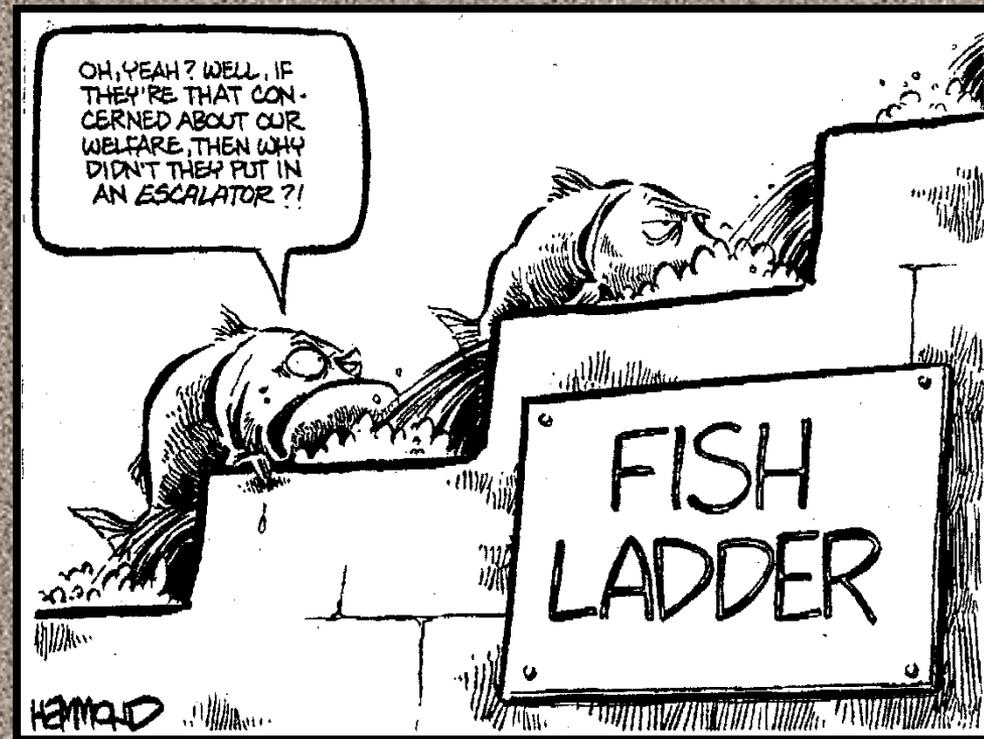
- Structures
- Facilities
- Devices
- Project Operations
- Measures



# Five Elements of a Fishway Working Definitions

## Structure:

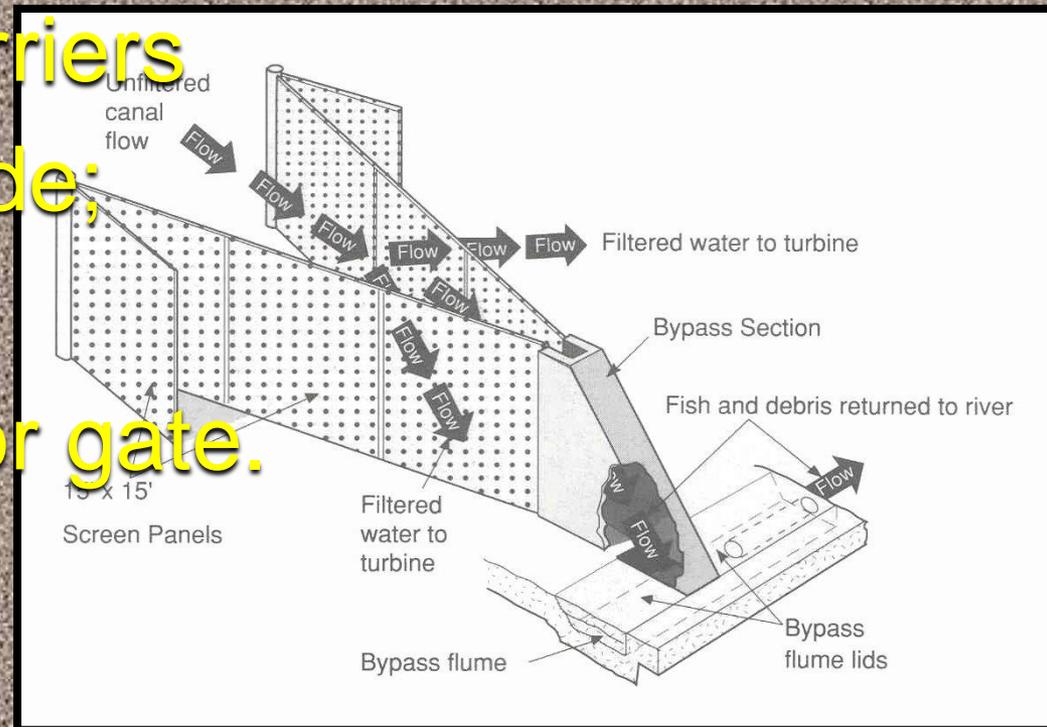
- A constructed physical feature.



# Five Elements of a Fishway

## Examples of Structures

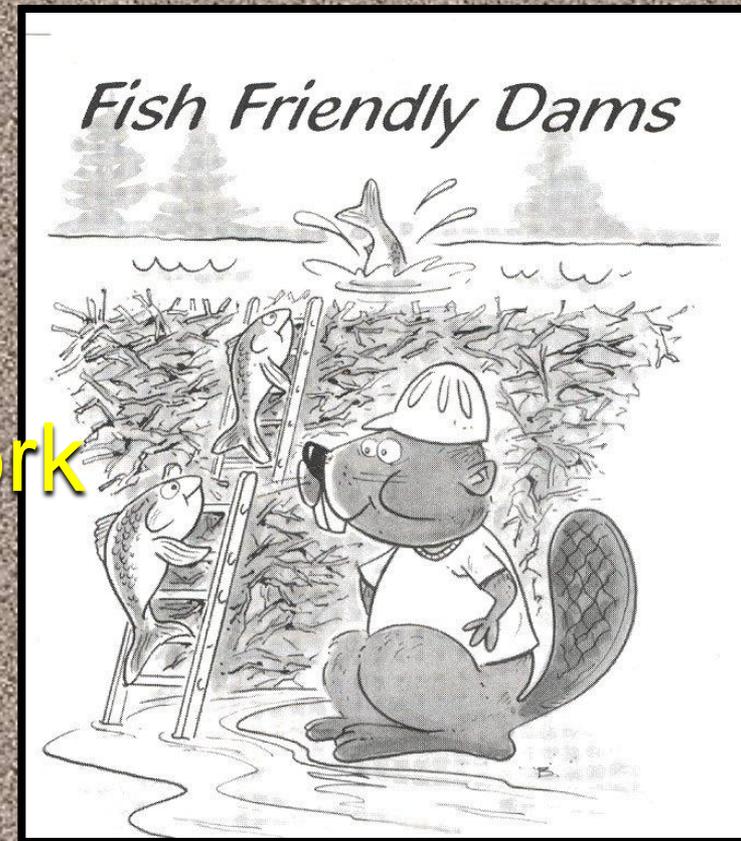
- Fish-ladder, -life, -trap;
- Fish screens or barriers that guide or exclude;
- Trash racks;
- A notch, spillway, or gate.



# Five Elements of a Fishway Working Definitions

## Facility:

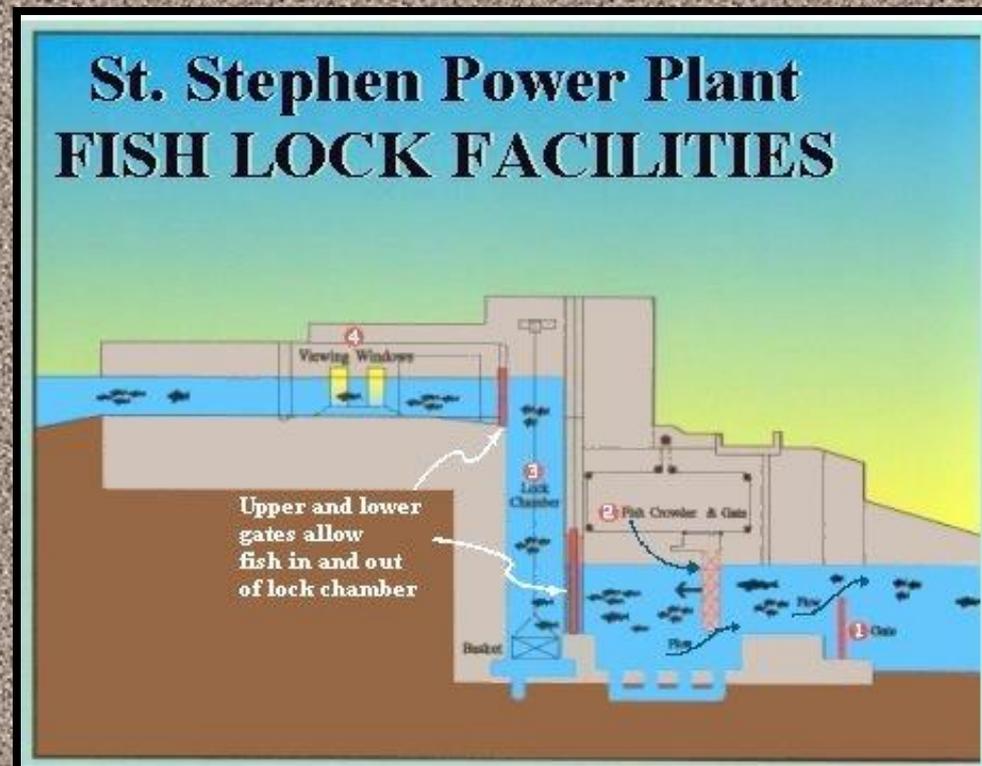
- A specific combination of structures, devices, operations, and/or measures designed to work together to perform a function.



# Five Elements of a Fishway

## Examples of Facilities

- Juvenile fish bypass;
- Fish collection gallery;
- Fish counting station;
- Trap and transport.

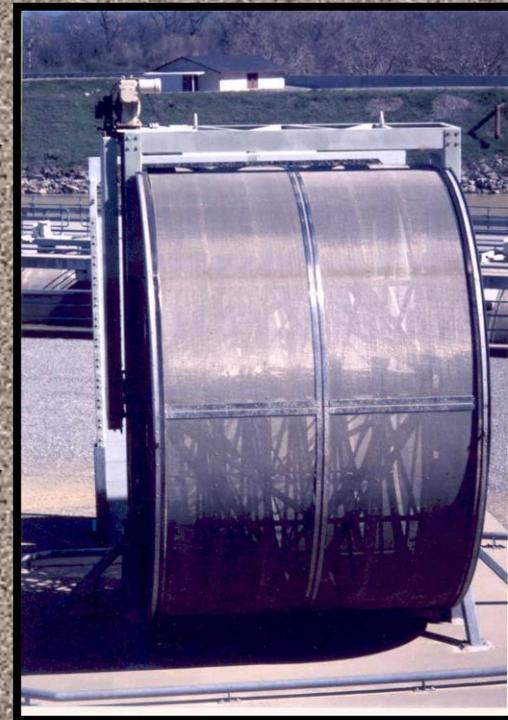


# Five Elements of a Fishway

## Working Definitions

### Device:

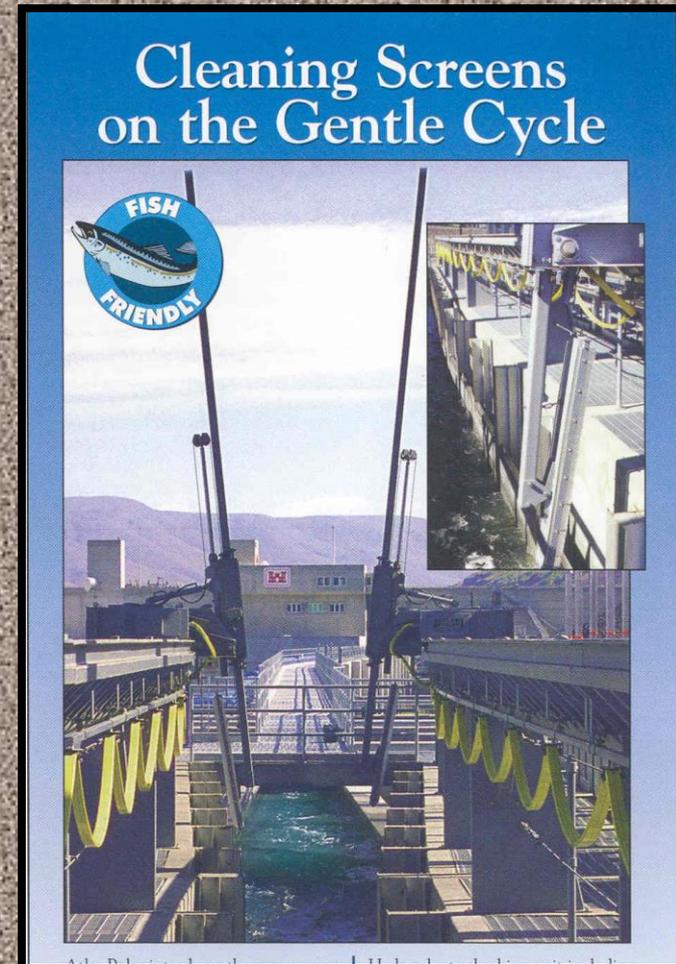
- A piece of equipment or a mechanism designed to serve a particular purpose or perform a particular function.



# Five Elements of a Fishway

## Examples of Devices

- Attraction flow systems;
- Pumps and conduits;
- Hoist and hopper on a fish lift;
- Screen cleaner.



# Five Elements of a Fishway

## Working Definitions

### Operation:

- A method or manner of functioning or performing.



# Five Elements of a Fishway

## Examples of Operations

- Turbine sequencing first unit on; last off);
- Gate timing to shape flows;
- # of lifts per unit time;
- Flow augmentation



# Five Elements of a Fishway

## Working Definitions

### Measure:

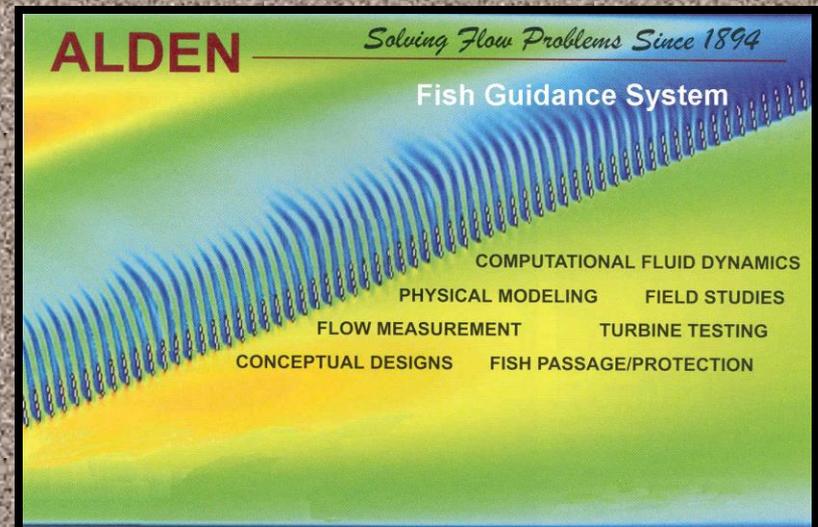
- An amount, allotment, capacity, evaluation, intensity, schedule, measurement, size, study, or action calculated to achieve an end.



# Five Elements of a Fishway

## Examples of Measures

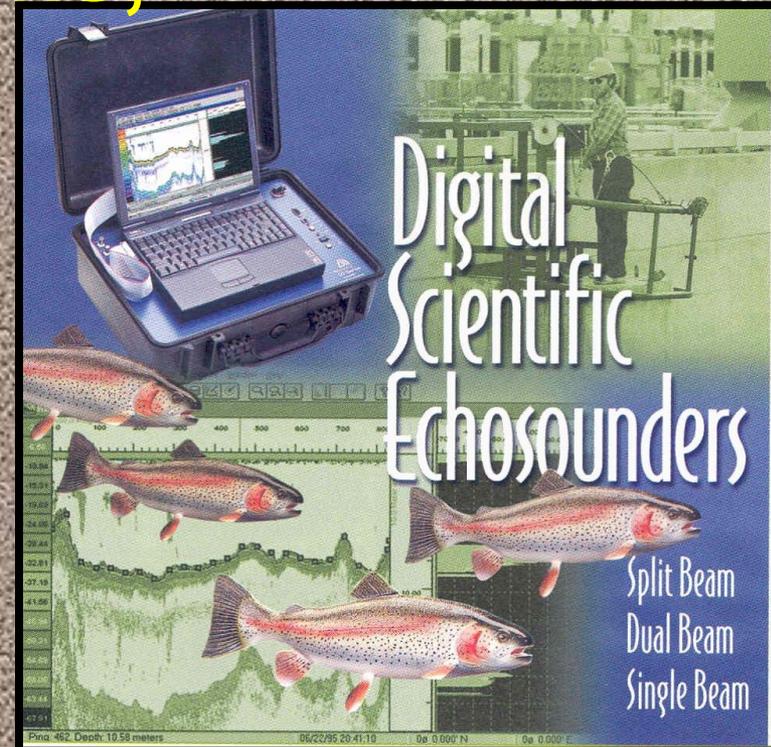
- Water Flow;
- Hydraulic modeling;
- Schedules;



# Five Elements of a Fishway

## Examples of Measures Cont.

- Monitoring, evaluations, and inspections;
- Design features;
- Channel modifications;
- Consultation.



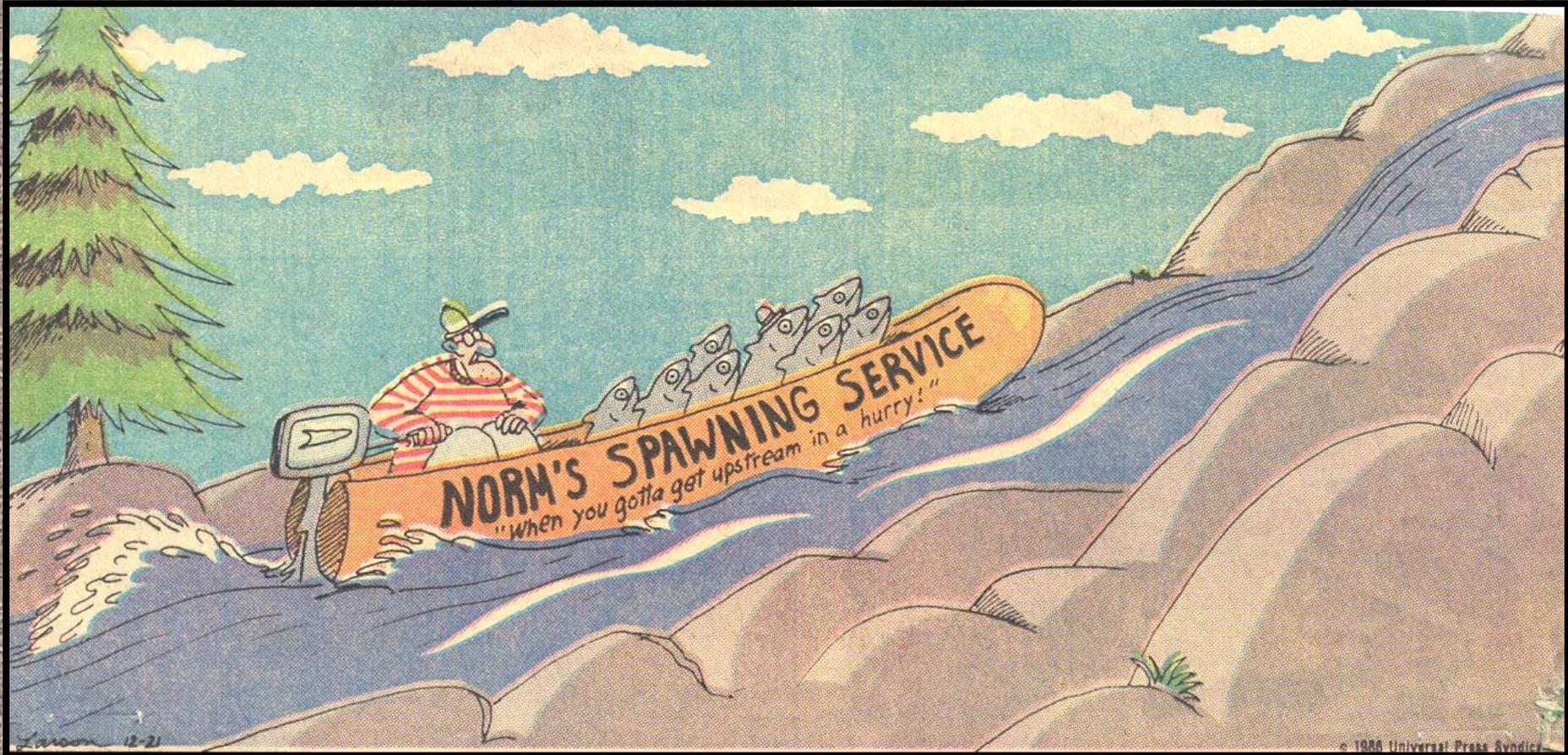
# Summary

## What Is a Fishway?

A fishway is the combination of ingredients (structures, facilities, devices, operations, and measures) necessary to insure the safe and timely movement of fish past a barrier.

A Fishway Rx is the recipe for the safe, timely, and effective passage of fish.

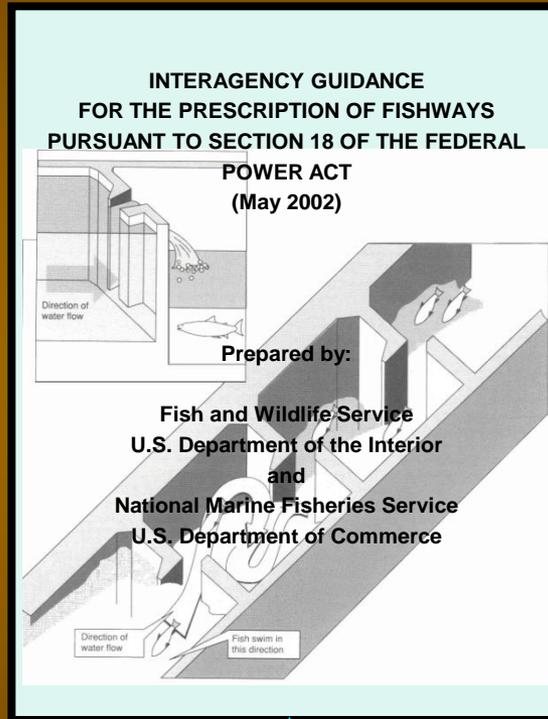
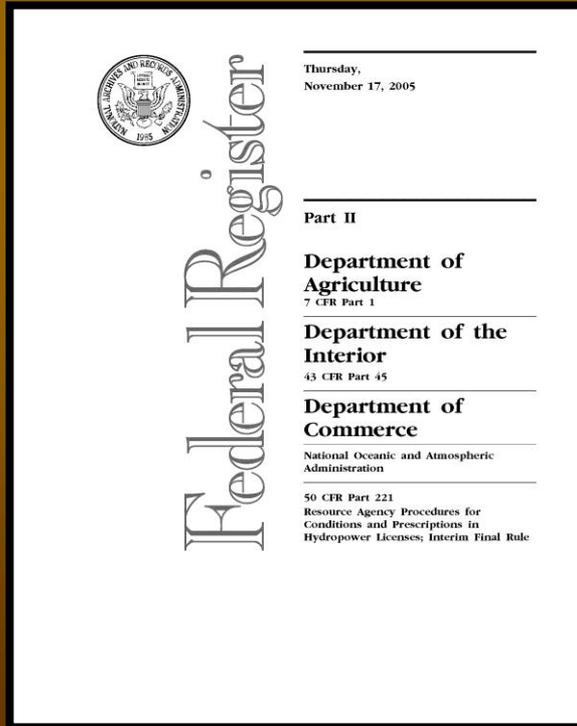
# The Fishway Prescription Process



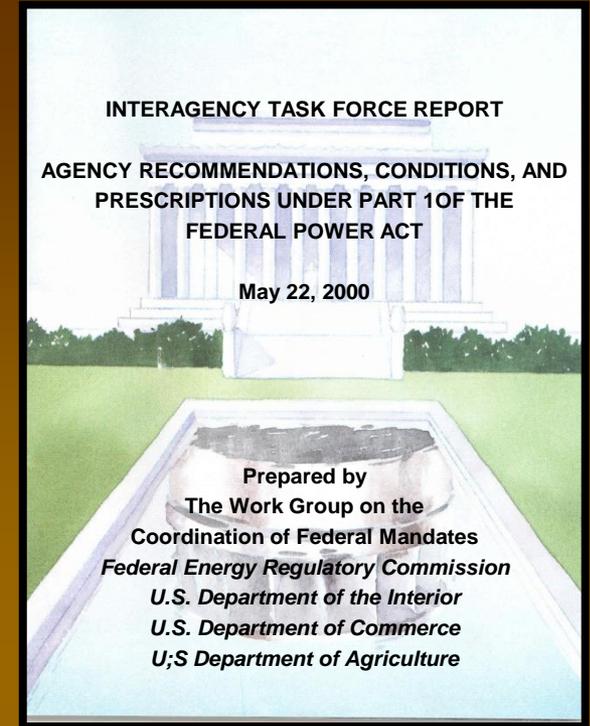
# Fishway Prescription Process

## Key Documents

TTH Rule



FWS Fishway Guidance



ITF Report  
Mandatory Conditions

# **Fishway Prescription Process**

## **Overview**

### **The fishway Rx process:**

- **Compatible with the ILP, TLP, and ALP;**
- **Consultative and iterative;**
- **Stakeholder involvement;**
- **Sequential, replicable;**
- **Continues post-licensing.**

# **Fishway Prescription Process**

## **Overview**

### **Fishway prescriptions:**

- **Based on available information;**
- **Supported by substantial evidence;**
- **Supported by facts in the administrative record;**
- **Meet resource goals and objectives with least cost;**

# Fishway Prescription Process

## Initial Preparation

When there is a significant interest in fish passage:

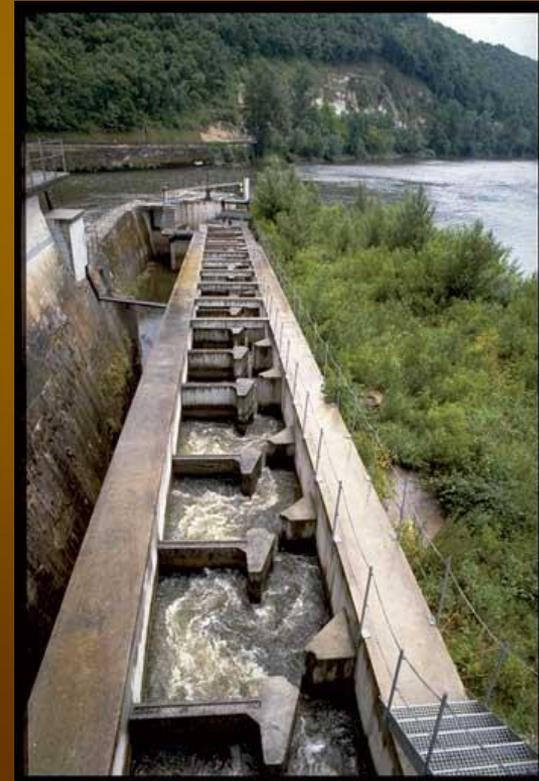
1. Raise “Fishways” as an issue early in the process;
2. Form an internal team;
  - ES Biologist
  - Fisheries biologist
  - Fishway engineer
  - Hydrologist
  - Legal advisor



# Fishway Prescription Process

## Initial Preparation Cont.

- **Coordinate, Cooperate, Consult**
  - Other DOI Bureaus
  - Federal Agencies
  - State Agencies
  - Tribes
  - Applicant



# Fishway Prescription Process

## 5 Steps

1. Evaluate potential for fishways
2. Develop preliminary fishway Rx
3. File Preliminary Rx
4. Review comments; Modify Rx
5. File modified Rx

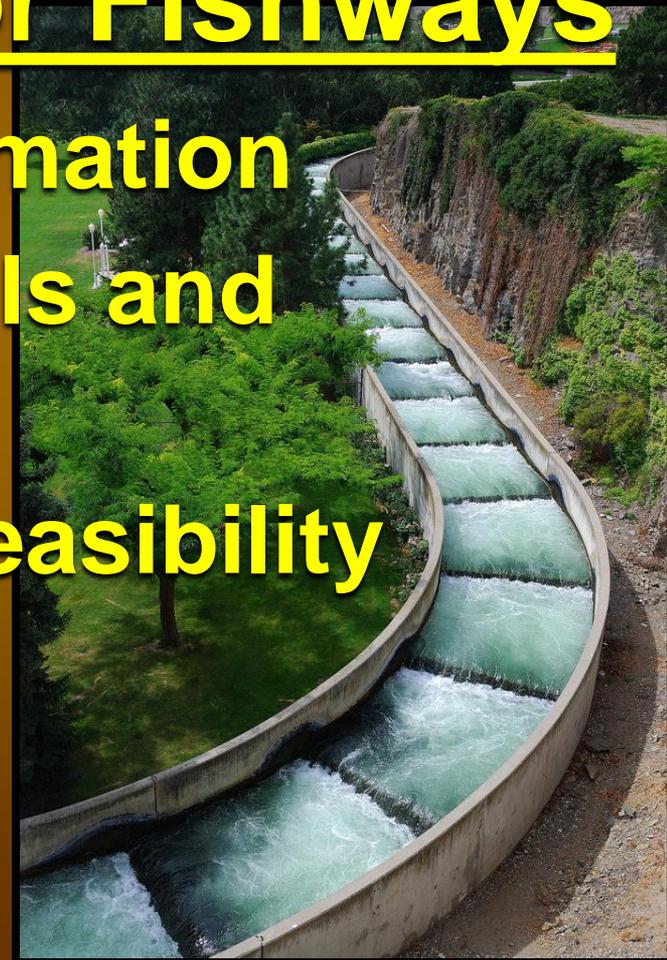


# Fishway Prescription Process

## Step 1

### Evaluate Potential for Fishways

- Gather available information
- Develop resource goals and objectives
- Determine need and feasibility
  - Biological
  - Technical
  - Appropriate



# Fishway Prescription Process

## Step 1 Cont.

### Evaluate Potential for Fishways

- **Develop study requests to:**
  - **Further inform initial determination whether fishways are needed and feasible**
  - **Refine the form, function, and design of the fishway**
- **Study requests must comply with FERC Regs.**



# Fishway Prescription Process

## Step 2

### Develop Preliminary Fishway Rx

- Make preliminary determination whether to prescribe fishways
- Base determination on:
  - Available information
  - Studies
  - Technical and scientific expertise
  - Professional judgment



# Fishway Prescription Process

## Step 2 Cont.

### Develop Preliminary Fishway Rx

- Formulate preliminary fishway Rx
- Develop prescriptive conditions
  - Address construction, operation, maintenance, and monitoring
  - Address project effects
  - Address resource goals and objectives
  - Include all elements for the safe and timely passage of fish



# Fishway Prescription Process

## Step 3

### File Preliminary Fishway Rx

- Filed in response to REA Notice
- Filing must include:
  - Preliminary Rx
  - Rationale for Rx
  - Reference to supporting documentation
  - Schedule
  - Reservation of Authority
  - Notice of TTH; File Alternative Rx



# Fishway Prescription Process

## Step 4

### Review Comments; Modify Rx

- Review & respond to comments

- Received on preliminary Rx
- Received via TTH process
- Filed on draft NEPA document

- Modify Rx as needed
- Coordinate with NOAA Fisheries
- Resolve inconsistencies

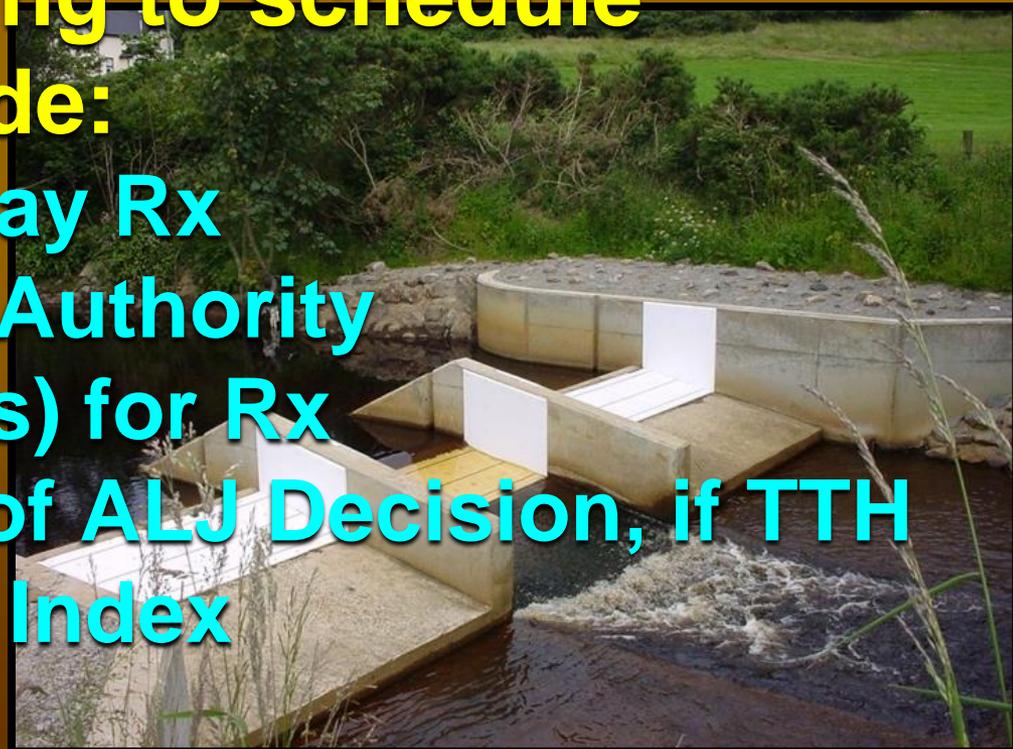


# Fishway Prescription Process

## Step 5

### File Modified Fishway Rx

- 60 days after close of NEPA comment period or according to schedule
- Filing must include:
  - Modified Fishway Rx
  - Reservation of Authority
  - Rationale (basis) for Rx
  - Consideration of ALJ Decision, if TTH
  - Admin. Record Index

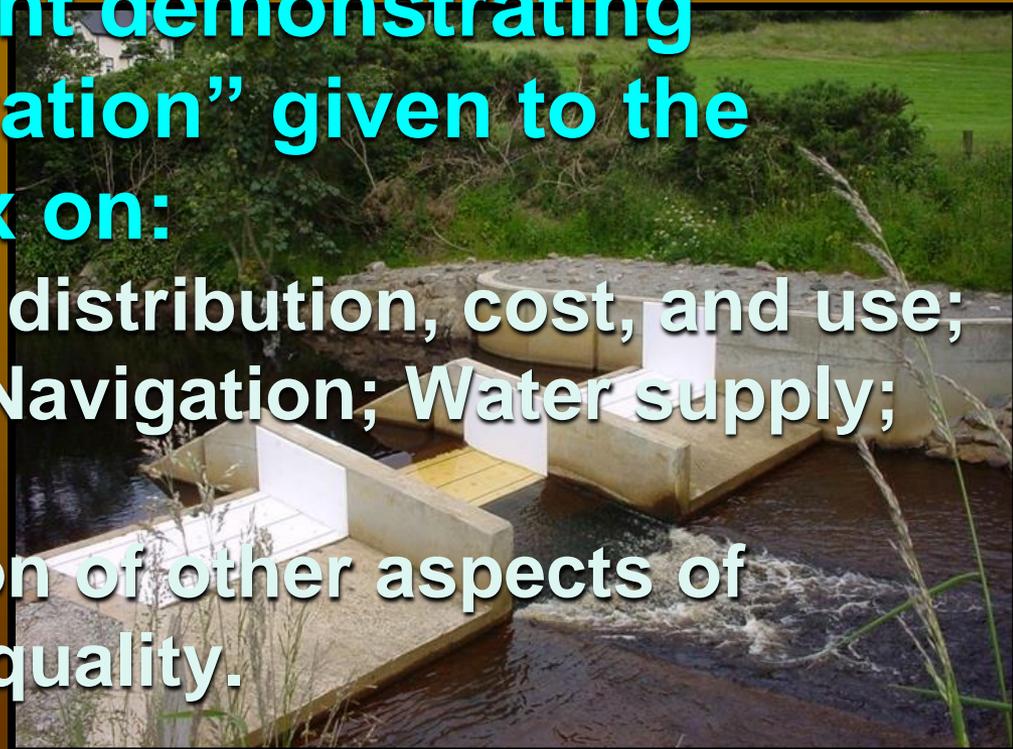


# Fishway Prescription Process

## Step 5 Cont.

### File Modified Fishway Rx

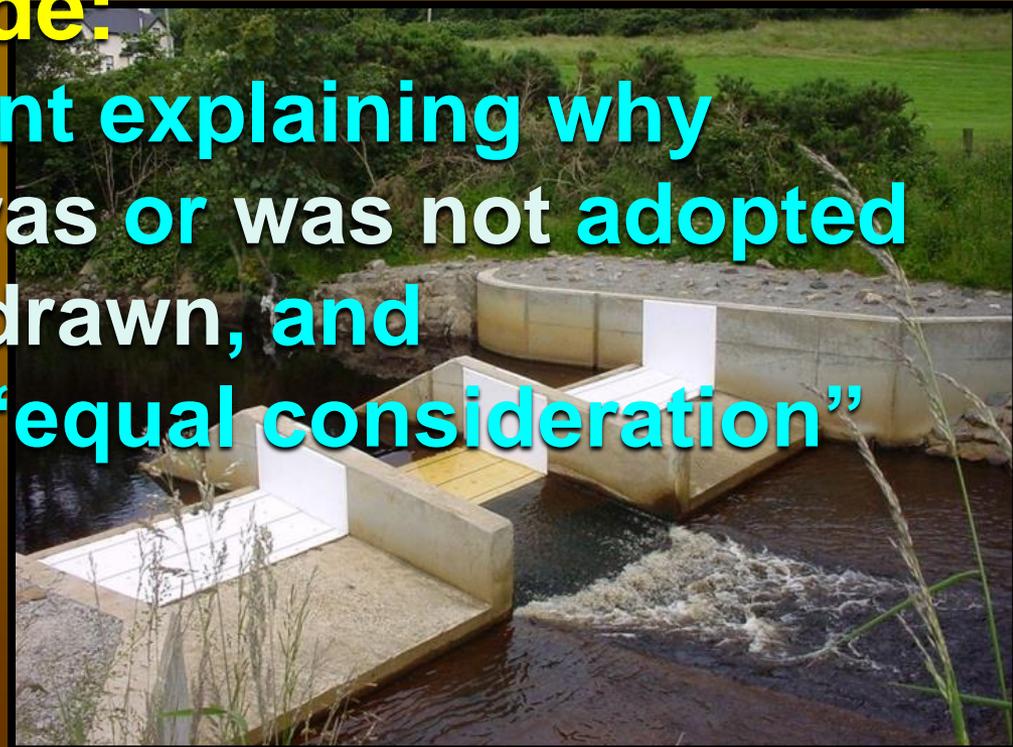
- Filing must include:
  - Written statement demonstrating “equal consideration” given to the effects of the Rx on:
    - Energy supply, distribution, cost, and use;
    - Flood control; Navigation; Water supply;
    - Air quality; and
    - The preservation of other aspects of environmental quality.



# Fishway Prescription Process Step 5 Cont.

## File Modified Fishway Rx

- In addition, if Alternative Rx was filed, Filing must include:
  - Written statement explaining why alternative Rx was or was not adopted or if it was withdrawn, and
  - demonstrating “equal consideration”

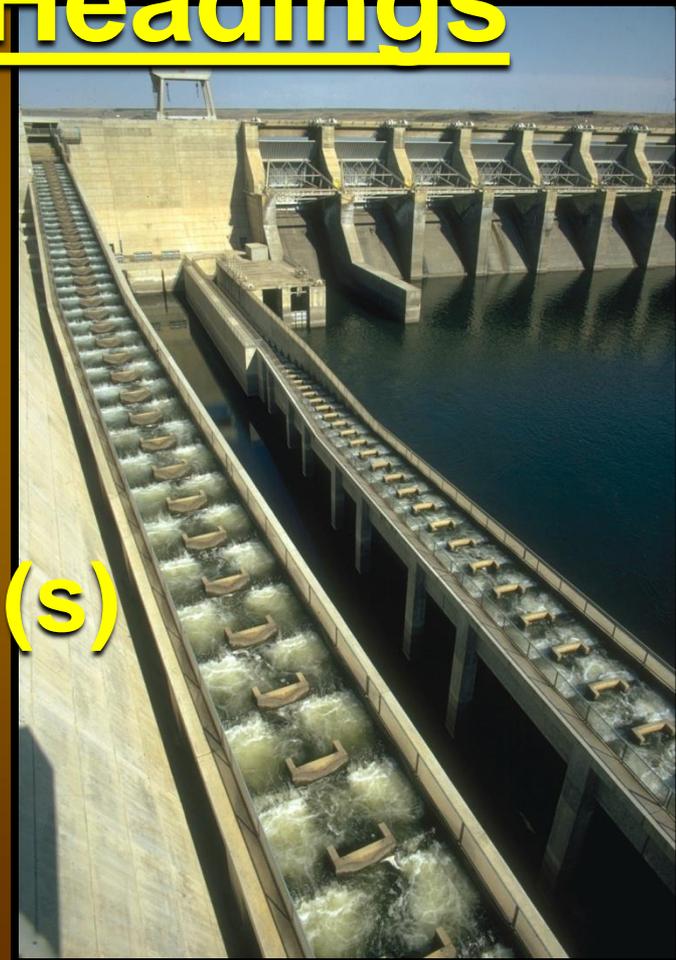


# Fishway Prescription Process

## Model Fishway Rx

### Organization and Headings

- Title
- Introduction
- Project Description
- Resource Description(s)



# Fishway Prescription Process

## Model Fishway Rx

### Organization and Headings

- Goal(s) for each fish resource
- Statutory Authority
- Procedural Background
- Administrative Record

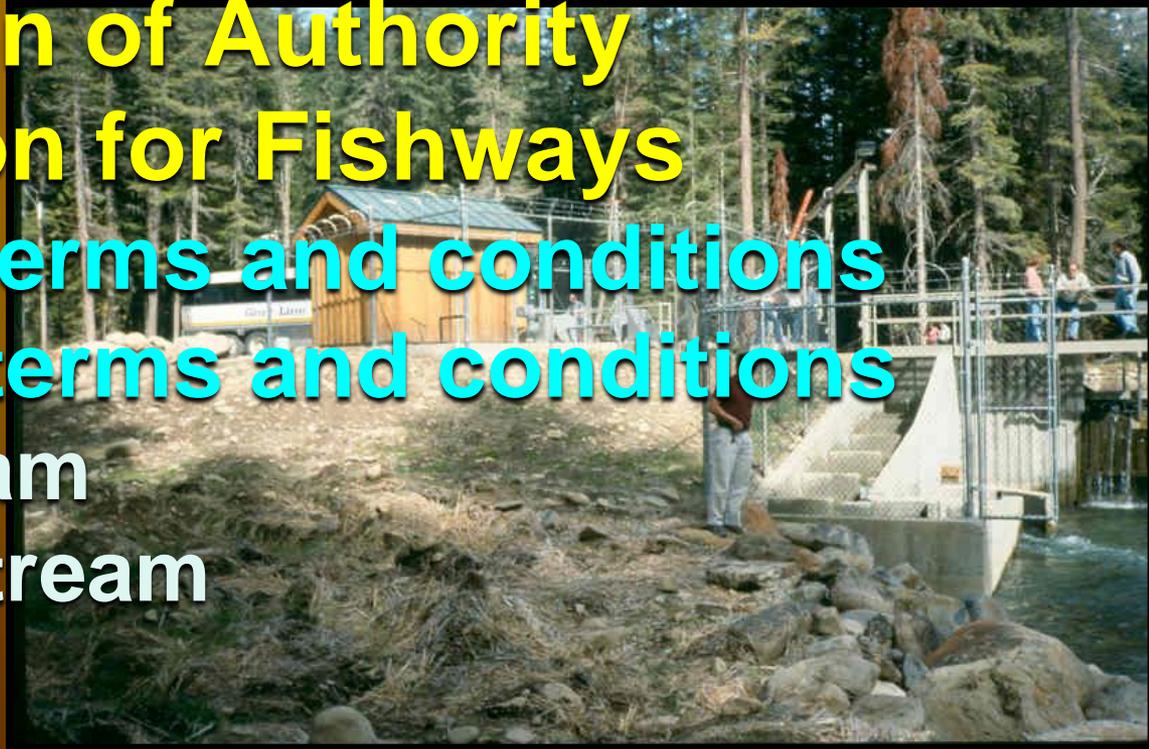


# Fishway Prescription Process

## Model Fishway Rx

### Organization and Headings

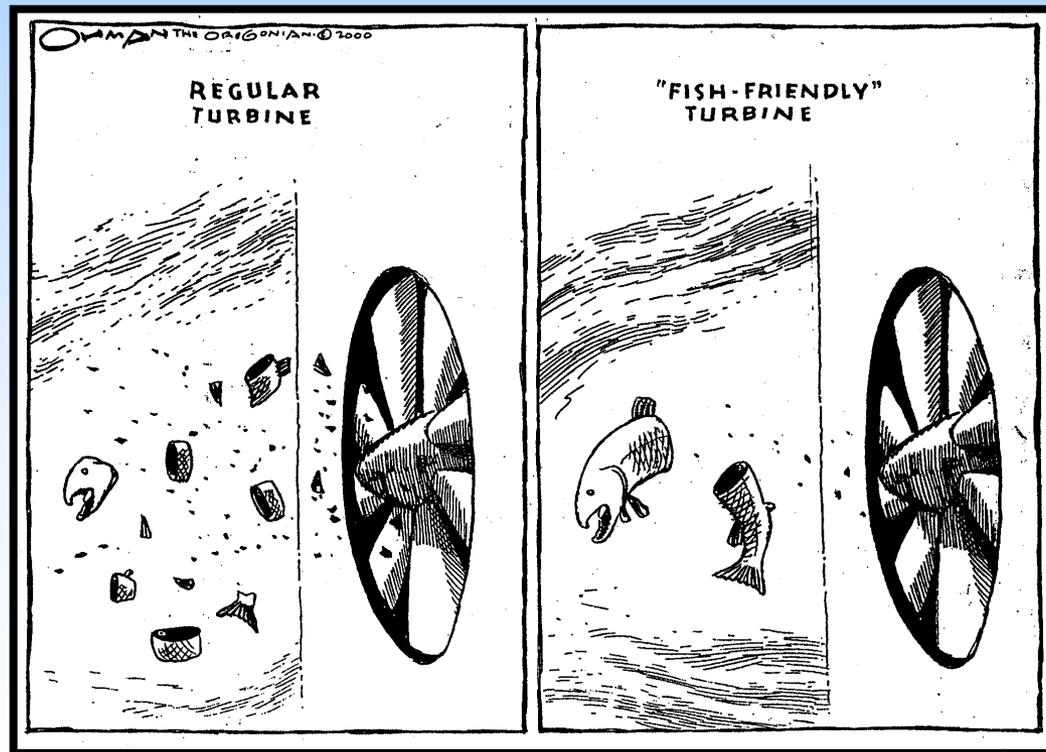
- Fishway Options Considered
- Reservation of Authority
- Prescription for Fishways
  - General terms and conditions
  - Specific terms and conditions
    - > Upstream
    - > Downstream



# Fishway Prescription Process

## Fishway Rx Filing

### Some Practical Considerations



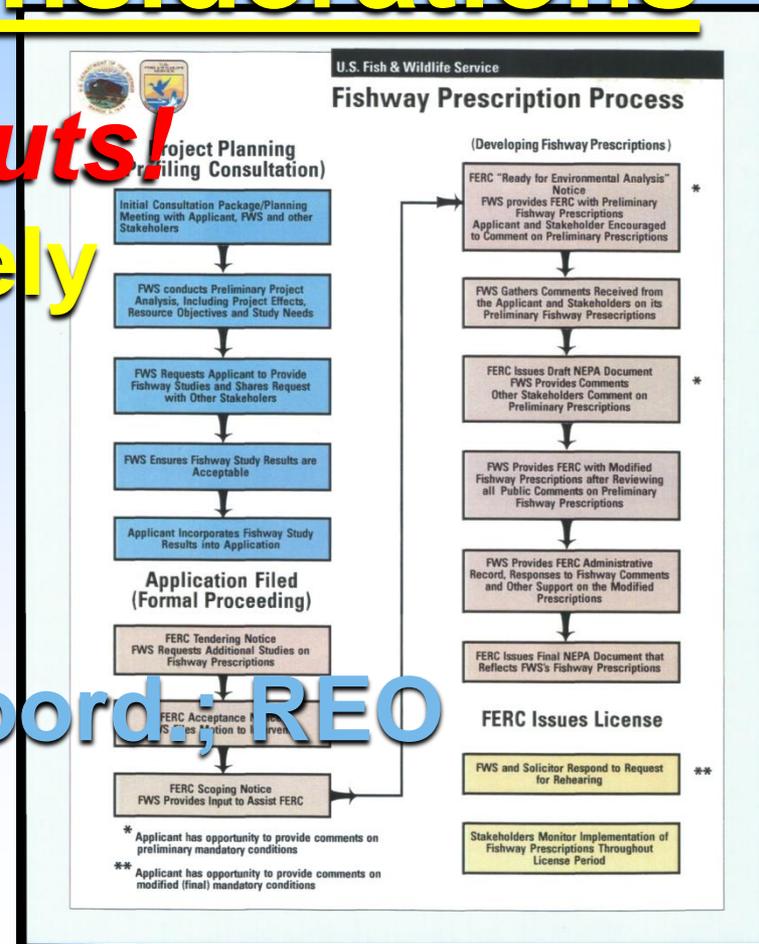
# Fishway Prescription Process

## Fishway Rx Filing

### Some Practical Considerations

***There are no shortcuts!***

- Plan ahead; Be timely
- Follow the rules
- Work with a Team
  - Legal advisor
  - Regional Hydro Coord.; REO
  - Partners



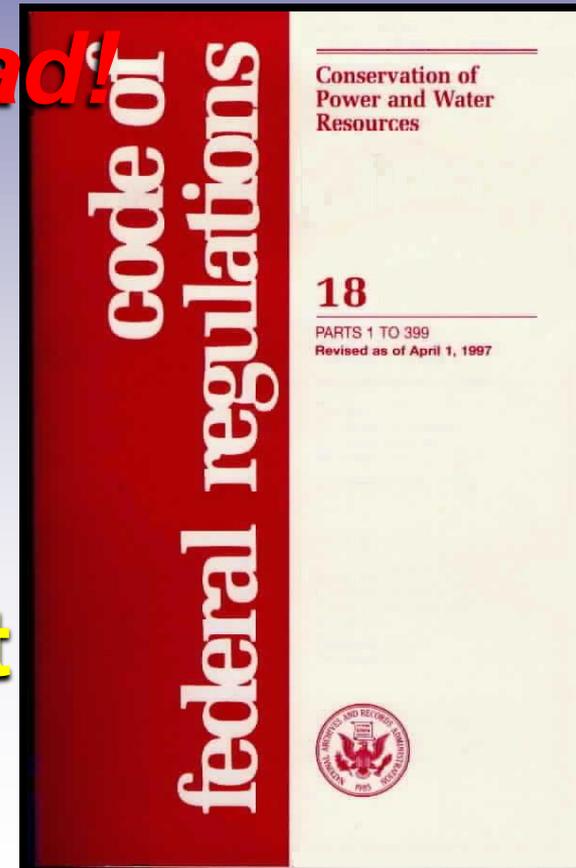
# Fishway Prescription Process

## Fishway Rx Filing

### Some Practical Considerations

#### ***Problem - Filing Overload!***

- FERC's regulations require:
  - E-file or Original plus 8 copies for FERC
  - Serve the Service List



# Fishway Prescription Process

## Fishway Rx Filing

### Some Practical Considerations

#### ***Solution: Filing Overload***

- File as you go
- File FERC's copies electronically or on CD
- Request relief to file fewer copies





# **Fishways and the Fishway Prescription Process Review and Summary**

- **Statutory Background**
- **Purpose of a Fishway**
- **Fishway Definition**
- **Fishway Elements**
- **Fishway Prescription Process**



