ICE HARBOR PROJECT

RESEARCHER'S GUIDE

- 1. PURPOSE. This Standard Operating Procedure (SOP) establishes policy requirements for researchers working at Ice Harbor Project.
- 2. APPLICABILITY. Personnel conducting official research at Ice Harbor Project.
- 3. REFERENCES:
 - a. EM 385-1-1, U.S. Army Corps of Engineers Safety & Health Requirements Manual
 - b. ER 385-1-91, Training, Testing & Licensing of Boat Operators

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Ice Harbor Operations Manager

TABLE OF CONTENTS

INTRODUCTION3
COORDINATION3
ORIENTATION4
KEY PERSONNEL5
SAFETY5
SECURITY6
CONSTRUCTION ACTIVITIES6
BOAT OPERATION7
FORMS AND CHECKLISTS FOR RESEARCHERS8
SAMPLE RESEARCH DOCUMENTS12

INTRODUCTION

There are many activities which must be coordinated at this project including facilities operation & maintenance, construction, fish related research, and public visitation. Many of the research activities can involve personnel who are not familiar with Corps requirements or with the unique requirements of Ice Harbor Project. In addition, the requirements themselves change particularly with regard to safety and security as new issues arise. Everyone's cooperation is required to ensure the safety and security of all concerned.

COORDINATION

Send letters requesting project access for research to:

U. S. Army Corps of Engineers Walla Walla District Attention: Chief of Operations Division 201 North Third Avenue Walla Walla, WA 99362-1876

Fish related activities at Ice Harbor Project must be coordinated with the Project Biologist to ensure compliance with all requirements and to identify any special situations that might be unique to the individual activities. The Project Biologist coordinates all fish activities with other Project elements.

To initiate a fish related activity at the Project, researchers must first write the Chief of Operations Division to request access (see address provided). This must be done annually for ongoing research programs. The letter should summarize the work planned and should indicate the extent of coordination completed. For example, one might indicate that the work is Corps funded and that it is on Walla Walla District's programmed list of approved research activities. The letter should indicate that applicable items from the following list are available to provide to the Project before beginning activities at the Project:

- 1. A project work plan, including a detailed schedule of planned activities.
- 2. A project impact statement.
- 3. An Activity Hazard Analysis or Job Hazard Analyses.
- 4. Material Safety Data Sheets (MSDS).
- 5. Appropriate ESA documents, when applicable.
- 6. State collector's permit, when applicable.
- 7. Funding arrangements for project support.
- 8. Lists of boats, personnel (including telephone contact numbers), and vehicles.
- Certificates for any required training.

Work may not start until the Corps provides a written affirmative response.

It is important to coordinate changes in schedules, activities, personnel, and so on as they occur through the season.

For work requiring physical project support, funding arrangements must be made before assistance can be provided. If work requires project support, submit requests to the Project Biologist. They will facilitate work requests for researchers.

Removing fish or wildlife from the Project requires a State collector's permit, a copy of which must be provided to the Project before research may commence. Dead fish should be immediately reported to the Project Biologist and will be disposed of back into the River. Researchers are required to write an incident report (with photos if available) to be sent to the Project Biologist.

ORIENTATION

Coordination Meeting

Once the approval letter from the Corps of Engineers is obtained, a coordination meeting will be held between the activity study leaders, the Project Biologist and Operations Manager. At a minimum, all the items in the attached Fish Activities checklist will be discussed.

Pre-work Meeting

Following the coordination meeting described above, and before the activity begins, the activity study leaders and Project Biologist will conduct a pre-work orientation meeting for all personnel involved. This is an annual requirement for all activities whether on going or new starts and should be held well before the activity begins.

Work plans, relations with the Project, and important safety considerations will be discussed. In particular, the Project's Safe Clearance Procedures will be reviewed. Work areas will be defined and reviewed in detail to identify any special hazards and precautions. Keys and ID badges may be issued at this meeting as well. Please fill out a Badge Request Form for all employees prior to arriving for your Pre-work meeting. Forms may be e-mailed or faxed to the Project.

Visitors

See Ice Harbor Standard Operating Procedure OPS-SEC-003.

KEY PERSONNEL

Some of the important project phone numbers are shown in the adjacent table. The three-digit numbers are used on the internal Project phone system. These phones are available at many locations around the project.

Control Room Shift Operator in charge	231 or Code call (80) 1-1-1
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Operations Manager 251

Chief of Operations 253

Project Fisheries Biologist 208

SAFETY

An important requirement of the Corps' Safety Manual (EM 385–1–1) is an Activity Hazard Analysis. A new hazard analysis (385–1–101.A.13) must be provided for review and approval at the beginning of each year of research activity or when an activity changes.

The safety manual also requires the following:

- Each research group must conduct weekly safety meetings (385-1-101.B.05). Notes
 or at least a list of topics from each of these meetings, must be provided to the
 Project Biologist monthly.
- 2. As defined in the Corps' Safety Manual (EM 385-1-1-03.A.02), a specified number of employees at each job site must have First Aid and CPR training. Generally, two people on each crew must be currently certified in First Aid and CPR. Provide a list of all personnel's First Aid and CPR certification expiration dates to the Project Biologist.
- 3. Report all accidents to the control room immediately.

Smoking indoors is not permitted anywhere on the Project or within 50' of any doorway. Smoking shelters are provided at strategic locations for personal protection from weather while smoking outside (Ice Harbor Standard Operating Procedure GEN-005).

Ice Harbor Project has an audible emergency warning call/bell of 5 rings - 5 rings - 5 rings on the code call system. The Project also has a pager system. Each individual is required to wear their pagers at all times. If their pager is not available, they will need to be escorted by someone with a pager. Be advised warnings may not be audible from all project locations. In the event of

an apparent emergency, all personnel should leave potentially dangerous areas and report to a muster station.

A list of all chemicals that the research unit anticipates using on the Project must be presented to the Project Biologist prior to bringing any chemicals onto the Project. Material Safety Data Sheets (MSDS) must be obtained for all approved hazardous materials brought onto the Project. Copies of these sheets must be provided to the Project Biologist and be made available to anyone working in the area. Each research group is responsible for supplying their own general first aid supplies. Additional first aid supplies specified in the MSDS must also be supplied. Research groups must properly store and dispose of chemicals and hazardous wastes. If a research group spills a chemical or hazardous material, they are responsible for cleaning up the spill. All spills are to be reported to the control room (ext. 231 or code call 1 – 1- 1) immediately. For Hazardous Waste Disposal or Spills, the Project ECC must be notified at (509)543-3204 or pager #214.

Each research unit is responsible for providing their employees with appropriate safety equipment and training on the use of equipment. Employers will use steel-toed footwear, hard hats, earplugs, eye protection, safety harnesses, shock absorbing fall protection, and personal flotation devices. If you have questions about what safety equipment will be required for your research, contact the Project Biologist. Personnel must meet minimum dress requirements while at Ice Harbor. The dress code applies in all non-visitor areas. The dress code is in effect all hours, even night shift. Failure to meet the minimum dress requirement may be grounds for dismissal from the project. Minimum dress requirement is long pants and short sleeved shirt (no sleeveless, tank tops, or midriffs), hard hat, and safety shoes. Additional identifying dress (uniforms) may be required in some situations.

Vehicle speed limits are posted throughout the project. Personnel should comply with these limits and generally drive defensively. Seat belt use is required. Riding in the cargo area of trucks is prohibited. Special care must be taken to avoid accidents.

CONSTRUCTION ACTIVITIES

All plans for fish related construction on the Project must be coordinated through the Project Fish Biologist. Construction may not begin until Project engineering staff approve the proposal.

All crane operation must be approved by the Chief of Operations or his designee. Cranes must meet all Corps safety requirements and must be tested. Likewise, crane operators must be approved.

Activities that might impact fish passage are not allowed near fishways without prior coordination and approval. Such activities, particularly construction, which can potentially

cause material or pollutants to fall into fishways, or generate noise that can cause fish to delay in passing, must be coordinated prior to starting.

BOAT OPERATION

See EM 385-1-1.

FORMS AND CHECKLISTS FOR RESEARCHERS

FISH ACTIVITIES PRE-WORK CHECKLIST

		TRE-WORK CHECKLIST
R	esearch Group	Research Activity
Р	oint of Contact	Phone
		eAnticipated End Date
	Letter to Chief of 0	
	Response from CI	nief of Operations
	Work plan	
	Detailed schedule	of activities
	Statement of impa	cts to the project, project support needs, storage, parking
		ents for project support
	Job Hazard Analys	sis (job-specific)
	Activity Hazard An	alysis (overall)
	Material Safety Da	ta Sheets (if applicable)
	Appropriate ESA d	locuments (if applicable)
	State collector's pe	ermit (if applicable)
	Complete list of pe	ersonnel, vehicles, and boats
	First aid/CPR certif	fication (expiration dates?)
	Attended hazardou	us energy safety training (annual requirement)
		on meeting
		sued
	Photo ID badge	

HAZARD ASSESSMENT SAFETY TALK FORM Updated 18 June 2006

Before official visitors are allowed to tour or work in areas not open to the public, the following form must be completed and discussed with the project point of contact (POC).

Visitor Name (please print legibly)	Badge number
Visitor Phone Number:	AlternateKeycard Number
Email	Hard Key Number
Project or Group	Keycard Expiration Date
POC—	
Today's Date	End Date of Activity
written into the Position Hazard Analysis.	Dress Code Driving on Project Physical health Emergency medical procedures (2223/BERT) Emergency warning siren Lifting and carrying Potable water systems Sanitation systems Interacting with the public Interacting with other researchers Transport and operation of heavy equipment
Protective headgear (hardhat) Protective footwear (steeltoes) Hearing protection	Protective glasses, goggles or face shields Other
Date of PPE training by employer	
Please notify your POC immediately if un	nsafe working conditions or procedures are noted.
EMERGENCY PHONE NUMBERS AND PINFORMATION WITH THEM AT ALL TIME	PROCEDURES ARE ON THE CARD ISSUED. VISITORS MUST KEEP THIS ES!!
Signature of Visitor	Date
Signature of POC	Date
Signature of HECP Trainer	Date

Request for Identification Badges/Keys This form is to be submitted a minimum of 24 hours prior to issuing

Name:			
(First) DOB:	(MI)	(Last)	
DL #:		Expiration Date	
Main Contractor:	Phone		
Your Company:	Phon	e:	
Job Site:			
Beginning Date:	End D	Date:	
Access Required: Work Hours:			
Access Needs: Gates:	Do	ors:	
На	rd Keys: Series	#	
		#	
COE POC:	Phone #:	<u> </u>	
Safety Talk Given By:		Date:	
Badge ID#			
understand and agree expenses of a relock fo	that violation of this a r the affected areas.	or duplicate the above keys and agreement may render me respons	
Printed Name:			
Signature:		_	
Date:			
Please fax requests to Ic	e Harbor Dam (509) 54	3-3201	
For Official Use Only Staff please initial and da C-Cure	ate when this informationSelectron	n is entered into the systems listed be Best	

MEMORANDUM FOR Commander, US Army Corps of Engineers, ATTN: CECE-OS-FL, 20 Massachusetts Avenue, NW, Washington, DC 20314-1000

SUBJECT: Request Visit of Foreign National(s) to the Walla Walla District

- 1. Reference AR-380-10, paragraph 5-9, wherein authority is specifically delegated to MACOM commanders, including the Chief of Engineers, to approve visits of foreign nationals to installations and facilities under their jurisdiction.
- 2. The Commander, Walla Walla District requests clearance for the following foreign national(s) to visit:

	a.	Name:		
	b.	Position:		
	C.	Country of Citizer	ip:	
	d.	Date(s) of Visit:		
	e.	Purpose:		
3.	Poi	nt of contact for the	isit is, telephone	
4.	Thi	s visit will benefit th	Corps of Engineers and no classified information will be discus	ssed.
5.	Atta	ached is a copy of	visitor's passport information for your records and retention.	
Sic	not	re Block		
Sig	natu	I E DIOCK	Date	

SAMPLE RESEARCH DOCUMENTS

SAMPLE RESEARCH PACKET/PROJECT IMPACTS DOCUMENT

PROJECT IMPACTS OF THE PRELIMINARY EVALUATION OF FISH BEHAVIOR PASSING THROUGH SUBMERGED ORIFICES WITH AND WITHOUT PIT TAG DETECTORS INSTALLED

Fisheries Field Unit

U.S. Army Corps of Engineers, Portland District Bonneville Lock and Dam Cascade Locks, OR 97014 (541) 374-8801

30 May, 2013

PRELIMINARY EVALUATION OF FISH BEHAVIOR PASSING THROUGH SUBMERGED ORIFICES WITH AND WITHOUT PIT TAG DETECTORS INSTALLED

Background

Installation of adult Passive Integrated Transponders (PIT) tag detectors at Columbia River dams is required by the Supplemental Biological Opinion Incidental Take Statement 3.e. (1998). The impact of adult PIT tag interrogation systems on adult fish passage needs to be evaluated before full scale PIT tag detectors can be installed. In addition, the accuracy of the detectors needs to be tested.

Lamprey passage, in addition to salmonid passage, has become an issue with the adult fish passage evaluation program for the lower Columbia River dams. About 70% of the tagged lamprey that enter the fishways at Bonneville dam do not pass (Steve Ley, personal comm.). Additional information is needed on the problems encountered by lamprey attempting to pass ladders designed for salmonids. Many researches have requested video of lamprey passage through submerged orifices, overflow weirs, and other portions of adult fishways. This study can supply that information as a secondary benefit of this work.

This is expected to be a long-term study that is anticipated to last through December 2003. The FFU conducted the preliminary work on this study in 1999 and 2000. Prior to that, the FFU did an underwater evaluation of fish passage in 1993 and 1994.

OBJECTIVES

Establish historic, baseline data concerning passage routes of fish through a literature review regarding proportions of fish passing through submerged orifices vs. overflow section of weirs.

Determine if the behavior and proportions of fish passing through submerged orifices and overflow sections is different in a normal weir than they are in a weir in which one of the orifices has a PIT tag detector installed. Behaviors to be examined includes proportions of fish passing through north or south orifices or overflow sections, fallback rates, hesitations, and approach and exit orientation through the orifice. (Ho) There is no significant difference in passage between orifices and overflow sections of weirs, whether with or without PIT tag detectors.

Determine the efficacy of adult PIT-tag detectors in tag enumeration of sample fish using visual verification, by means of video technology, of PIT-tagged fish passing the detectors.

METHODS

For Objective 1. For 2001, underwater and overhead cameras will be need to be installed to observe submerged orifices and overflow sections. Overhead cameras will be used to observe overflow weir passage simultaneously with underwater videos to determine the proportion of fish using the overflow weir. Sites for the video cameras will be 37, 51, 52, 53, and 56 in the Washington shore ladder, weirs 50 and 51 in the A branch, and weirs 50 and 51 in the B branch. We will be recording the spring and fall runs to determine the proportions of fish passing through the orifices and the overflow sections of the weirs. Recording will take place for approximately two weeks during the peak of each run, for a total of about four weeks of recording during the fish passage season. We will be recording all species of salmonids, shad, and lamprey. Four cameras for each weir, two underwater cameras and two overhead cameras, will be used at one time. To improve visibility and aid in identifying fish, we will paint the floor of the ladder and the top of the weirs white. The information we obtain from observing the behavior of fish used to determine usable locations for PIT tag detectors.

Objective 2. The PIT tags and the housing for them will be installed by the National Marine Fisheries Service. Video taping will be done for approximately two weeks with an equal number of hours recorded of weirs with and without PIT tag detectors. The video tapes will be viewed to determine if there is any difference in numbers or behavior of fish in passage at the weirs with PIT tags and numbers or behavior in passage at weirs without PIT tag detectors. Behaviors that will be looked for include any differences between the weirs with or without PIT tag detectors (or just the housing) in avoidance or reluctance to pass, percent passing over the overflow section compared with going through the orifice, and jumping rather than swimming over the weirs.

Objective 3. In 2001, fish collected at the Adult Fish Collection and Monitoring Facility will be tagged with PIT tags by NMFS personnel. In addition, visual detachable streamer tags and other visual cues will be applied to the fish prior to their release and exit from the facility. The four underwater and four overhead cameras that are installed at weirs in the Washington shore ladder will film these fish and the video tape will be viewed to verify the accuracy of the PIT tag units to detect the presence of PIT tagged fish.

Justification of the Proposed Study Area

Bonneville Dam will be used because it is the first dam upstream on the Columbia River and slated to be the first dam outfitted with adult PIT tag detectors. In addition, Bonneville Dam has an adult fish collection facility where fish may be easily collected and tagged. Radio-telemetry work, which is already being done at Bonneville, would

also help answer any concerns about the underwater cameras effecting fish passage. In the Washington shore ladder, weirs 52 and 53 will still be used because it is near ac power and not far down to the water's surface. Weir 37 will be used for the verification portion of the study as it is near the adult collection facility and we will be able to observe the behavior of fish shortly after they have been released from the lab. We can then compare fallback behavior of fish released from the lab with fish that have not been trapped. In addition, the selected weirs in the Washington will be where the PIT tag detectors will be installed. The A branch and B branch were selected in order to obtain base line data on fish behavior at the weirs. These particular weirs were chosen because they are not far from an available power source, which we will need for our trailer.

SCHEDULE

During the winter of 2000/2001, we will mount the camera guides and paint the floors of the ladder around the orifices and the top of the overflow sections at the Bonneville Dam Washington shore ladder and in the A and B branches of the Bradford Island fish ladder. In the Washington shore ladders, we will install camera mounts on weirs 37, 51, 52, 53, and 56. To install camera mounts and, later, cameras on weir 37, we will need crane time six to ten times during the season. In addition, we will also need to remove the mounts we used last year from the Cascades Island fish ladder. The transformer at the Cascades Island site will, however, remain.

During the peak of the spring run, probably in May, we will video-tape the overflow sections and orifices for approximately two weeks at each test weir. The same will follow for the peaks of the fall run. We will also video-tape fish passing over weir 37 whenever NMFS personnel release fish tagged with PIT, Peterson, and streamer tags. Tapes will be read as they become available. In addition, various cameras, camera angles, deployments, and times of day will continue to be tested throughout the year for

efficiency of viewing and identification of fish. When the video taping in September is completed, the camera and mounts will be removed.

FACILITIES AND EQUIPMENT REQUIREMENTS

A transformer and electric hookup, as well as space, for the FFU trailer near the junction pool on the B branch site on Bradford Island. The transformer will be in addition to the one left at the Cascades Island site.

Access to the Cascades Island, Washington shore, and A and B branch fishways during the winter maintenance season.

Permission to use the office in the adult lab to store our equipment and for office work. The FFU will furnish the desks and any other office supplies.

PROJECT IMPACTS

Project Services

During the maintenance season, we will need access to the Washington shore and the A and B branches fish ladders in order to paint the floor and weir tops of the fish ladder and to install the camera mounts. We will also need access to the Cascades Island fishladder in order to remove the camera mounts that we used last year.

We will need crane service six to ten times during the season to install cameras at weir 37 in the Washington shore ladder.

We will need the FFU trailer moved from Cascades Island to the B branch site, near the junction pool.

Security

Project security issues involve access to the study areas by FFU personnel and vehicles. Primary work areas will be the Washington shore ladder and the A and B branches of the Bradford Island fishway. The viewing of the video tapes will be done either at the FFU office or the FFU storeroom located in the second powerhouse. Any video-tape viewing by contract personnel will be done off the project. As the workers on this project will be Corps employees, all personnel will be familiar with project

regulations concerning security. Should it become necessary for one of us to change the video tape during none business hours, the control room will be notified.

Because one of the camera sites will be accessible to tourists, there is a potential security problem from the public. This site is the by the A branch, on the downstream side. During the hours the project is open to the public, measures will need to taken to protect the camera equipment

Safety

All personnel will read the Corps of Engineers General Safety Requirements Manual #385-1-1. In addition, monthly safety meetings will be held and the list of topics covered will be provided to the Project Fish Activity Coordinator. More frequent safety meetings specific to this study should not be necessary as we plan to collect data for only one week out of each month. The list of personnel and the expiration dates of their First Aid and CPR expiration dates is attached.

The Activity Hazard Analysis and the Job Hazard Analyses are attached.

EXAMPLES OF LISTS FOR BOATS, PERSONNEL AND VEHICLES

REG.	NAME	LENGTH	AGENCY	ACTIVITY	POC	
OR 111AB	TULE	16	NMFS	PH1 FGE	BROWN, BOB	
OR 222BC	TYEE	26	NMFS	PH1 FGE	TROUTMAN, SUE	
Figure 4 Suggested Format for Boat List.						

			EXPIRATION	
NAME	AGENCY	ACTIVITY	1ST AID	CPR
BROWN, BOB	NOAA-F	PH1 FGE	6/30/04	6/30/04
GILL, MARCUS	NOAA-F	PH1 FGE	6/15/04	6/30/04
SALMON, SAM	NOAA-F	PH1 FGE	6/15/04	6/30/04
TROUTMAN, SUE	NOAA-F	PH1 FGE	6/15/04	6/30/04
Figure 5 Suggested	Format for	Parsonnal List		

Figure 5 Suggested Format for Personnel List.

LICENSE	ST	DESCRIPTION	COLOR	AGENCY	OWNER	POC/CREW
101-AAA	OR	VOLKSWAGON	RED	NOAA-F	BROWN, BOB	BROWN, BOB
202-ABB	WA	FORD BRONCO	WHITE	NOAA-F	SALMON, SAM	BROWN, BOB
303-ACC	GO	SUBURBAN	SILVER	NOAA-F	US GOV'T	BROWN, BOB
Figure 6 Suggested Format for Vehicle List.						