

Trail Crew Management



Session Objectives

Learn Basic Crew Management Activities

- Understand Crew Organization
- Identify Types of Crews
- Crew Operations
 - Recruitment and Retention
 - Safety
 - Training
- Types of Crew and Trail Project Management

Understand Basic Work Crew Organization

- All Trail Crews and Trail Projects will Break into Operational Roles
 - They can Develop on their Own or Your can Pre-Identify them for Easier Project Management
- Crew Management Has the Following Identified Roles:
 - Project Manager
 - Technical Supervisor
 - Crew Leader
 - Crew Members

Work Crew Role Definitions

Project Manager:

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- 📄 Moves the Project from Planning and Design
 - 📄 The Person with the Funds to Complete the Project
 - Responsible for Budgeting, Tracking, and Reconciliation of Project Funds
 - 📄 Obtains Permits Prepares Contracts, Interagency Agreements etc.
 - 📄 Acts As or Works Through the Technical Supervisor

Work Crew Role Definitions

Technical Supervisor:

Has Complete Working Knowledge of Project:

- ▣ Working Drawings, Maps, Specifications
- ▣ Familiarity of the Onsite Layout
- ▣ Project Scope
- ▣ Timeline
- ▣ Provides Quality Control
- ▣ Ability to Convey this Information to the Labor Force

Work Crew Role Definitions

Technical Supervisor:

Has Complete Working Knowledge of Project:

- ▣ Identifies and/or Obtains Specialized Tools and Equipment Needs
- ▣ Provides or Identifies Needed Skills and Training Required to for Project Completion
- ▣ Identifies Logistical Needs
- ▣ Develops Project Implementation Components/Construction Time Line

Work Crew Role Definitions

Crew Leader:

- ☐ Knows the Logical Stages of the Project Completion
- ☐ Identifies what Tools, Equipment and Materials are Needed to Continue Working
- ☐ Develops a Team with the Technical Supervisor
- ☐ Identifies Crew Needed Training and Technical Needs on Project Components

Work Crew Role Definitions

Crew Leader:

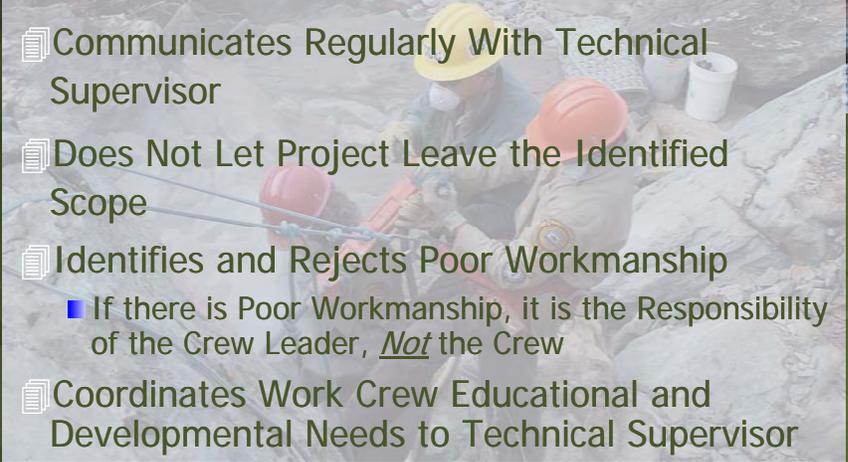
Has Experience Organizing and Working a Dynamic Working Crew

- ☐ Gets the Crew Out to the Work Site in a Timely Manner
- ☐ Ability to convey Project Information to Crew
- ☐ Keeps Their Crew Busy
- ☐ Has a Plan for Each Work Day
- ☐ Has a 1 to 3 Day Work Plan with Contingency Plan

Work Crew Role Definitions

Crew Leader:

📄 Develops a Team with the Technical Supervisor

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- 📄 Communicates Regularly With Technical Supervisor
 - 📄 Does Not Let Project Leave the Identified Scope
 - 📄 Identifies and Rejects Poor Workmanship
 - If there is Poor Workmanship, it is the Responsibility of the Crew Leader, Not the Crew
 - 📄 Coordinates Work Crew Educational and Developmental Needs to Technical Supervisor

Crew Communication Roles

- 📄 All Decisions Concerning Project Design, Materials and Quality Control is the Responsibility of the Technical Supervisor
- 📄 All Decisions Concerning the Employee Safety, Task Assignment and Supervision of the Work Crew is the Crew Leader
- 📄 Communication to the Crew Members Normally Goes through the Crew Leader
 - 📄 If you Directly Communicate Project Inconsistency to the Crew Members it Undermines the Authority of the Crew Leader

Exercise



What Types of Crews Do You Use for Trail Work?

- Brainstorm types of crews
- Record Types on Flip Chart

Crew Categories

1. In-house/Force Account (agency)
2. Service Corps and Partnerships
3. Volunteers
 - A. Agency Volunteers
 - B. Service Groups – Sierra Club/Volunteer Vacations/Trail User Groups
 - C. International
4. Contractors
5. Inmates
6. Mixed

From Each Type of Crew on Flip Chart Lets
Identify Appropriate Category



Crew Personnel Management

- Safety
- Recruitment
- Retention

Safety



Task Hazard Analysis		
Task or Project:	Work Force:	Prepared By:
		Date:
		Technical Supervisor Review:
Major Steps to Accomplish	Potential Sources of Accident	Preventive Measures
List steps in the order they normally occur	After each step, note hazards of arrangement as well as techniques and habits of people that may produce accident	Note precautions or procedures to be followed to eliminate the potential source of accident
•Mobilize	Crushing Injuries	•inspect cable, chain or wire rope for wear and replace
•Design Rigging System	Slip, Trip and Fall	
•Select Equipment	Material Under Stress	•Know rated capacity of cable, chain or wire rope being used
•Set Rigging	Equipment Limitations	•Avoid overloading and shock loading
•Move Load	Pinch Points	
•Remove Rigging	Overhead Loads	
•Demobilize	Lifting	
	Cuts and Abrasion	

Training

↪ Increases Skill Levels



Training

↪ Creates Better Efficiencies



Training

↪ Decreases Costs



Training

↪ Motivates



Retention and Motivation

1. Tangible Tasks
2. Work that Matches their Interests/Reason
3. Reason for Performance
4. Freedom to Complete the Task
5. Tools to Complete the Job
6. Safe and Friendly Environment
7. Follow Up
8. Feedback
9. Recognition
10. Invite Back

Types of Crews and Trail Project Management

- ① Who Does What
- ② Select the Proper Crew Type for the Job Proposed



Project Agreements

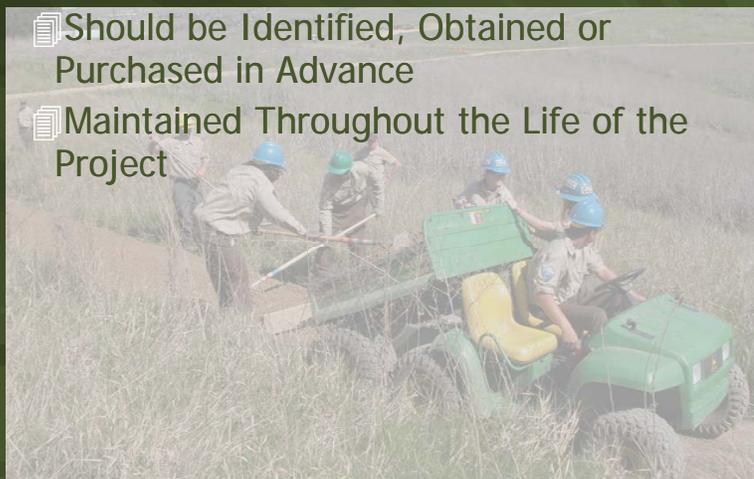
1. What Will the Agency Do and/or Provide
2. What Will the Crew Do and/or Provide
3. Commitment Expectation by Agency or Crew

Typical Agency Supplied Items

Specialized Tools and Equipment

Should be Identified, Obtained or Purchased in Advance

Maintained Throughout the Life of the Project



Typical Agency Supplied Items

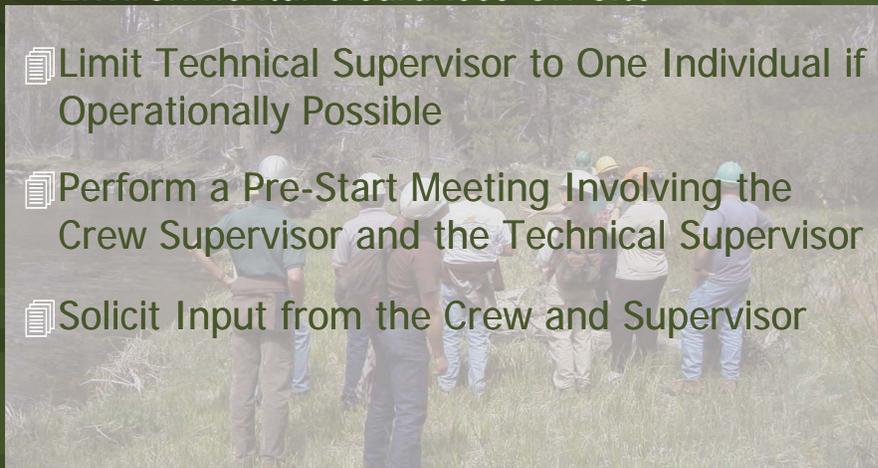
Materials

- ☞ On-site Native Materials are Located and Approved
- ☞ Proper Harvesting Techniques Trained
- ☞ Purchased Materials
- ☞ Obtained Prior to Project Start



Criteria Needed For Project Starting

- ☞ All Trail Projects Should Have Permits and Environmental Clearances On-Site
- ☞ Limit Technical Supervisor to One Individual if Operationally Possible
- ☞ Perform a Pre-Start Meeting Involving the Crew Supervisor and the Technical Supervisor
- ☞ Solicit Input from the Crew and Supervisor



Criteria For Efficient Project Management

- ☞ Keep the Work Crew on the Assigned Project

 - ☞ This Eliminates Confusion and Morale Issues

 - ☞ The Work Crew is not a Catch all Work Force to be Shifted for Daily Priority Changes

How do We Pick the Right Crew for the Right Trail Project?

Factors to Consider

Complexity of Project



Logistics and Location



Time Lines and Budget

Sierra District Crew Schedule - 2003		Weekly Cost	April			May			June			July					
Inhouse Work Crews			11	18	25	2	9	16	23	30	6	13	20	27	4	11	18
7	Trail Crew Rubicon Squad - Brian Woodson Laborer and Crew		Fire Training for New Crew Members	Returning Crew R&T Sierra Gold	Empire Mtn-South Yuba/Elkavall Road and Trail Logging Out and Culvert Cleaning	Lake Sector/Greer Hot Springs Road and Trail Logging Out and Culvert Cleaning CAT I Funded			DPR Trail Ciso Prep Lost Lake Trail Rehab/Aspen Stand Management MCO Funded					Lost Lake Trail Rehab/Aspen Stand Management EIP Funded			
9	Project Cost	\$3,300			\$3,300	\$5,600	\$3,300	\$5,600	\$3,300	\$3,300	\$5,600	\$3,300	\$5,600	\$3,300	\$5,600	\$3,300	
10	Trail Crew Sugar Pine Squad -		Fire Training for New Crew Members	Returning Crew R&T Sierra Gold		Sugar Pine ADA Retrofits - Bike Trail Phase II to Loop Three and Tie In Accessible Campsites to Shower Building / Hazard Tree Removal -ADA Funded											Bliss Campground I
12	Project Cost	\$3,300			\$3,300	\$5,600	\$3,300	\$5,600	\$3,300	\$3,300	\$5,600	\$3,300	\$5,600	\$3,300	\$5,600	\$3,300	
13	Forestry Management Crew Red Squad Brian Robertson Chris Butz Brian Robertson		Fire Training for New Crew Members	Returning Crew Exotic Rem Sierra Gold	Bliss Campground Opening	Plumas Eureka Campground Opening	Donner Memorial Campground Opening		Donner Memorial Plumas Eureka Trail and Road Logging Out and Culvert Cleaning		Whispering Vag Management	Hydrology			D.L. Bliss Thin and Stack		
15	Project Cost	\$4,500			\$4,500	\$4,500	\$5,600	\$4,500	\$5,600	\$4,500	\$5,600	\$4,500	\$5,600	\$4,500	\$5,600	\$4,500	

Safety



Summary

- Crew Management is a Process
- Recognize Roles on Work Crews
- Crews Require Planning and Time Commitment
- We Can Maximize Trail Work Needed with Utilizing Multiple Crew Types
- Invest in Trail Crews for Positive Returns
- Treat Trail Crew Labor as a Valued Commodity

Final Exercise

1. *Determining Which Category of Crew to Use For Your Project and Why*
2. *What Specialized Tools and Materials Does the Agency Need to Provide*
3. *What Does the Crew Need to Bring*
4. *Level of Support and Supervision by Technical Supervisor*
5. *How Would You Recruit Your Selected Crew*
6. *What Special Logistics are Needed*
7. *What Training is Needed for Your Crew*

Work in Teams 10 minutes
Report Out..... 1-2 minutes



Scenario #1

Your Open Space Manager informs you that she just received a last minute call from Headquarters, with two months left in your budget year, you have been given \$75,000 to construct a much needed 45' Bridge across a popular high use ATV trail.

Your Operation has never built a bridge before, but your Manager informs you she knows a Boy Scout group that will work on trail projects. She has trust in your ability to get the bridge built right. She also tells you that there is support for plans and specifications from the Engineers at Headquarters; they will do the plans for \$7,000.

You have 60 days to lock up the money or complete the project; otherwise the funds will revert at the end of the fiscal year.

Scenario #2

As Trails Coordinator for your Resource Area you have a trail that is badly overgrown. The section of trail needed brushed begins 6 miles into the backcountry and goes 3 miles up a ridge to prime elk hunting habitat.

It is September and the hunting season is coming on in October, you have already laid off your 2 person trail crew and you have a small amount of your trails budget left. Your Resource Area Manager, an avid hunter, contacted the local Rocky Mountain Elk Foundation and they are willing to give you funds for subsistence to get the project done.

Scenario #3

There is a massive rock slide on the access trail down to the only natural bridge on your Forest. The slide destroyed a retaining wall on a switchback corner. You will need to remove the slide debris, place it in an appropriate disposal area and select rock to reconstruct a 250 square foot fill slope retaining wall on the lower leg of the switchback.

You have a trail crew that has rock skills, but your District Ranger has been contacted by the "Save the Natural Bridge Committee" who sells books and pamphlets at the trail head. They have a volunteer group who wants to fix your problem on the trail and get it open.

Scenario #4

You are trying to complete a mountain bike trail that will connect a small recreation area outside of town to a system of trails already existing in town. You have written a successful Recreational Trails Program Grant and have funds in your operation to construct this trail.

The NEPA document identifies sensitive plant and animal species and states that the trail must be constructed by hand crews with no motorized equipment. It is August and due to nesting birds you can not start work until after October 1st. You have a 45 day window of work before the winter rains normally start .

The plans are complete; you have a trail work leader but no crew to complete this project. You will need a crew to work straight through to complete the trail and meet the restrictions of the environmental document

Scenario #5

Your Facility Manager informs you that there is money this year to open up the old trail to the historic ranch and Indian ruins along the only year round stream on the lands your agency manages. There is a lot of trail work involving excavation for retaining walls, construction of causeways and puncheons to keep impacts off of fragile soils and construction of overlooks and interpretive panels.

While preliminary plans are done, there is the expectation that the exact location of all the trail features might change. Archeologists and Resource Ecologists expect to make field adjustments as the project is implemented and monitored

Scenario #6

It is mid-winter and the weather is cold. You have to perform maintenance on the greenway trail along the river corridor. It is grown in with brush and there is lots of flood debris to remove from the last three 100 year rain events that happened last fall.

You do not have a trail crew and your volunteers are not real keen on flood debris removal and heavy brush removal. Your agency has limited personnel funds but has lots of wheel barrows and brushing tools.