

HACCP Step 1 – Activity Description

Activity Description	
Facility: Central AZ reservoirs	Site: Roosevelt and Apache lakes
Project Coordinator: Jim Warnecke	Activity/Management Objective: To re-inoculate the depressed Apache lake smallmouth bass fishery with broodstock size smallmouth from Roosevelt Lake using angler caught fish and Region VI electro-fishing gear.
Site Manager: Jim Warnecke	
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Project Description i.e. Who; What; Where; When; How; Why
<p><u>When:</u> November 11 and 12, 2006</p> <p><u>Where:</u> Roosevelt Lake based near Sheriff's Substation area</p> <p><u>Why:</u> To re-inoculate the depressed Apache lake smallmouth bass fishery with broodstock size smallmouth from Roosevelt Lake using angling and Region VI electrofishing gear.</p> <p><u>Who:</u> AGFD coordinator J. Warnecke will collate anglers needed for the event and solicit AGFD personnel to assist during the transfer and electrofishing activities.</p> <p><u>What:</u> Have a select number of anglers (by invitation only) catch smallmouth bass > 11 inches at Roosevelt Lake and transport them to awaiting holding pens manned by AGFD personnel ready for transport to Apache Lake. AGFD electrofishing equipment will conduct smallmouth collection activities during the evenings of Nov 10th and 11th.</p> <p><u>How:</u> The selected anglers will sign in and out with AGFD and act as agents of the state in acquiring smallmouth broodstock, thereby waiving size and limit restrictions during this scheduled activity. Holding pens (nets) will be set out for collecting smallmouth at the Sheriff Substation dock for anglers to use throughout the 2 day event. Fish taken via electrofishing will be held in nets and/or transferred directly to Apache Lake, depending on numbers collected. All collected smallmouth bass will be marked using an anal fin ray break. Transfer-ready smallmouth will be stocked at Burnt Corral and the main Marina areas of Apache Lake on the evening of the 11th and afternoon of the 12th. Apache Lake water elevation has been lowered 50 feet to accommodate dam repairs and distribution equipment will have to drive across lake bottom surfaces to reach water edge for distribution.</p>

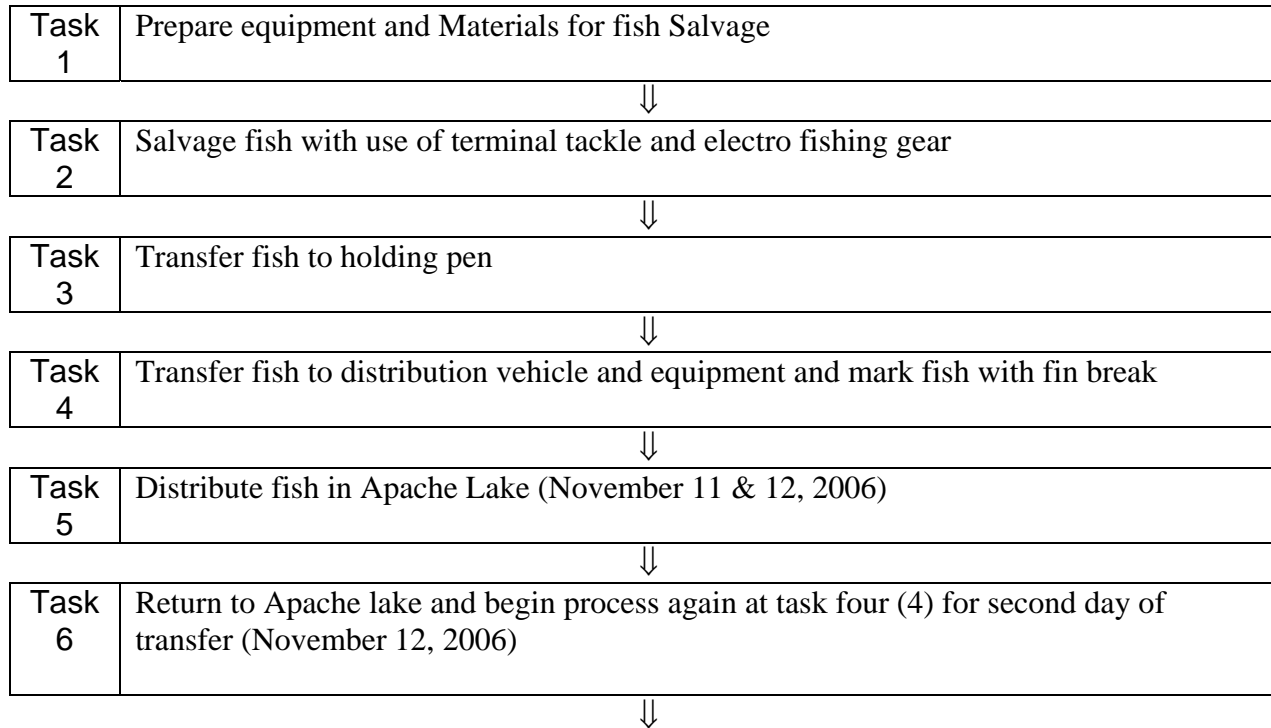
HACCP Step 2 – Identify Potential Hazards

(to be transferred to column 2 of HACCP Step 4 – Hazard Analysis Worksheet)

Hazards: Species or Contaminants Which May Potentially Be Moved/Introduced
<p>Vertebrates: Fish Species at Roosevelt Lake, Largemouth bass, black Crappie, flat head catfish, channel catfish, buffalo fish, carp</p> <p>No vertebrates from Apache lake are to be transferred back</p>
<p>Invertebrates:</p> <p>Miscellaneous invertebrates and zooplankton from Roosevelt lake</p>
<p>Plants: Miscellaneous macrophytes and phytoplankton from Roosevelt lake</p> <p>In addition to miscellaneous macrophytes and phytoplankton, Golden Algae (<i>Prymnesium parvum</i>) is present in apache Lake</p>
<p>Other Biologics (e.g. genetics, disease, pathogen, parasite, or non-pathogens):</p> <p>Wild fish health surveys have been completed on fish from both Roosevelt and Apache lakes and no reportable, notifiable, or restrictive pathogens as identified in ARS 12-4-410 have been identified.</p>
<p>Others (non-biological contaminants e.g. pesticide residue, oil products, etc. or harborage via packing or construction materials, etc.):</p> <p>NA</p>

HACCP Step 3 – Flow Diagram

Flow Diagram Outlining Sequential Tasks to Complete Activity/Project
Described in HACCP Step 1 – Activity Description
(to be transferred to column 1 of the HACCP Step 4 – Hazard Analysis Worksheet)



HACCP Step 4 – Hazard Analysis Worksheet

1 Tasks (from HACCP Step 3 - Flow Diagram)	2 Potential hazards identified in HACCP Step 2	3 Are any potential hazards significant? (yes/no)	4 Justify evaluation for column 3	5 What control measures can be applied to prevent undesirable results?	6 Is this task a critical control point? (yes/no)
Task 1 Prepare equipment and Materials for fish Salvage	Vertebrates Largemouth bass, black Crappie, flat head catfish, channel catfish, buffalo fish, carp	No	All equipment used in operation has been cleaned, dried, and no aquatic organisms transported	Ensure that all support materials have been cleaned from last time they were used.	No
	Invertebrates Miscellaneous invertebrates and zooplankton	No	All equipment used in operation has been cleaned, dried, and no aquatic organisms transported	Ensure that all support materials have been cleaned from last time they were used.	No
	Plants Miscellaneous macrophytes and phytoplankton from Roosevelt lake In addition to miscellaneous macrophytes and phytoplankton, Golden Algae (<i>Prymnesium parvum</i>) is present in apache Lake	No	All equipment used in operation has been cleaned, dried, and no aquatic organisms transported	Ensure that all support materials have been cleaned from last time they were used.	No
	Other Biologics no reportable or restrictive pathogens as identified in ARS 12-4- 410	No	All equipment used in operation has been cleaned, dried, and no aquatic organisms transported	Ensure that all support materials have been cleaned from last time they were used.	No

	Others NA	No		Ensure that all support materials have been cleaned from last time they were used.	No
Task 2 Salvage fish with use of terminal tackle and electro fishing gear	Vertebrates Largemouth bass, black Crappie, flat head catfish, channel catfish, buffalo fish, carp	No	Only adult or mature fish are being selected and non-target species are easily identified and removed.	Only adult and mature fish are harvested and they are easily identifiable. All other species will be released.	No
	Invertebrates Miscellaneous invertebrates and zooplankton	No	Only adult or mature fish are being selected and held in live wells with direct originating water. Non-target species are not considered an impact	Only adult and mature fish are harvested and methods used are selective for target species.	No
	Plants Miscellaneous macrophytes and phytoplankton from Roosevelt lake In addition to miscellaneous macrophytes and phytoplankton, Golden Algae (<i>Prymnesium parvum</i>) is present in apache Lake	No	Only adult or mature fish are being selected and held in live wells with direct originating water. Non-target species are not considered an impact	Only adult and mature fish are harvested and methods used are selective for target species.	No
	Other Biologics no reportable or restrictive pathogens as identified in ARS 12-4-410	No	NA	NA	No
	Others NA	No	NA	NA	No

HACCP Step 4 – Hazard Analysis Worksheet (continued)

1 Tasks (from HACCP Step 3 - Flow Diagram)	2 Potential hazards identified in HACCP Step 2	3 Are any potential hazards significant? (yes/no)	4 Justify evaluation for column 3	5 What control measures can be applied to prevent undesirable results?	6 Is this task a critical control point? (yes/no)
Task # 3 Transfer fish to holding pen	Vertebrates Largemouth bass, black Crappie, flat head catfish, channel catfish, buffalo fish, carp	No	Salvaged fish are being held in water body that they were captured in and non-target species have been removed	Ensure that each fish is processed through a QC program by trained fish expert capable of identifying all fish species.	No
	Invertebrates Miscellaneous invertebrates and zooplankton	No	Only adult or mature fish are being selected and transferred to live car. Non-target species are not considered an impact	Holding container is in same water source that fish were salvaged from so no significant threat is posed.	No
	Plants Miscellaneous macrophytes and phytoplankton from Roosevelt lake In addition to miscellaneous macrophytes and phytoplankton, Golden Algae (<i>Prymnesium parvum</i>) is present in apache Lake	No	Non-target species are not considered an impact	Holding container is in same water source that fish were salvaged from so no significant threat is posed.	No

	Other Biologics no reportable or restrictive pathogens as identified in ARS 12-4- 410	No	NA	Holding container is in same water source that fish were salvaged from so no significant threat is posed.	No
	Others NA	No	NA	NA	No

Task # 4 Transfer fish to distribution vehicle and equipment and mark fish with fin break	Vertebrates Largemouth bass, black Crappie, flat head catfish, channel catfish, buffalo fish, carp	No	Only adult or mature fish are being selected and non-target species are easily identified and have been removed at tasks 2 & 3.	Ensure that each fish is processed through a QC program by trained fish expert capable of identifying all fish species. Fish are transferred in large mesh nets eliminating all non-targets less then 6 inches in length. During marking process all fish are handled individually.	No
	Invertebrates Miscellaneous invertebrates and zooplankton	No	No evidence or documentation of species considered invasive and fish are transferred to vehicle in large mesh dip nets with low probability of moving non-target species.	Fish are transferred in large mesh nets eliminating all non-targets less then 6 inches in length. Distribution tank is filled with Roosevelt lake water some invertebrates may be included. They are not considered a significant threat	No

	Plants Miscellaneous macrophytes and phytoplankton from Roosevelt lake In addition to miscellaneous macrophytes and phytoplankton, Golden Algae (<i>Prymnesium parvum</i>) is present in apache Lake	No	No evidence or documentation of species considered invasive and fish are transferred to vehicle in large mesh dip nets with low probability of moving non-target species.	Fish are transferred in large mesh nets eliminating all non-targets less than 6 inches in length. Distribution tank is filled with Roosevelt lake water some phytoplankton may be included. They are not considered a significant threat. If macrophytes are observed they will be picked out and discarded.	No
	Other Biologics no reportable or restrictive pathogens as identified in ARS 12-4- 410	No	NA	NA	No
	Others NA	No	NA	NA	No

HACCP Step 4 – Hazard Analysis Worksheet (continued)

1 Tasks (from HACCP Step 3 - Flow Diagram)	2 Potential hazards identified in HACCP Step 2	3 Are any potential hazards significant? (yes/no)	4 Justify evaluation for column 3	5 What control measures can be applied to prevent undesirable results?	6 Is this task a critical control point? (yes/no)

Task # 5 Distribute fish in Apache Lake (November 11 & 12, 2006)	Vertebrates Largemouth bass, black Crappie, flat head catfish, channel catfish, buffalo fish, carp	No	Only adult or mature fish are being selected and non-target species are easily identified and have been removed at tasks 2, 3 & 4.	Ensure that each fish is processed through a QC program by trained fish expert capable of identifying all fish species. Fish are off loaded by hand in large mesh nets eliminating all non-targets. Non-target species are not considered a significant threat.	No
	Invertebrates Miscellaneous invertebrates and zooplankton	No	No evidence or documentation of species being considered invasive and Non-target species are not considered significant hazard. There is a direct connection (downstream water pathway) from originating water to receiving water.	Fish are off loaded by hand in large mesh nets and transport water and non-targets are not discharged into receiving Lake.	No
	Plants Miscellaneous macrophytes and phytoplankton from Roosevelt lake In addition to miscellaneous macrophytes and phytoplankton, Golden Algae (<i>Prymnesium parvum</i>) is present in apache Lake	No	No evidence or documentation of species being considered invasive and Non-target species are not considered significant hazard. There is a direct connection (downstream water pathway) from originating water to receiving water.	Fish are off loaded by hand in large mesh nets and transport water and non-targets are not discharged into receiving Lake.	No
	Other Biologics no reportable or restrictive pathogens as identified in ARS 12-4-410	No	NA	NA	No
	Others NA	No	NA	NA	No

Task # 6 Return to Apache lake and begin process again at task four (4) for second day of transfer (November 12, 2006)	Vertebrates Largemouth bass, black Crappie, flat head catfish, channel catfish, buffalo fish, carp	No	Hauling tank will be empty.	NA	No
	Invertebrates Miscellaneous invertebrates and zooplankton	No	Hauling tank will be empty.	NA	No
	Plants Miscellaneous macrophytes and phytoplankton from Roosevelt lake In addition to miscellaneous macrophytes and phytoplankton, Golden Algae (<i>Prymnesium parvum</i>) is present in apache Lake	Yes	Although hauling tank will be empty extreme caution must be exercised to insure that Apache lake materials (water or substrate) are not attached to distribution vehicle, net, or boots.	After the fish have been distributed the transportation equipment is move to high dry ground and while the tank is being drained the tank water (Quat-128 added) is used to wash the vehicle undercarriage, nets, and boots that were potentially exposed to Apache Lake water and substrate.	Yes
	Other Biologics no reportable or restrictive pathogens as identified in ARS 12-4-410	No	NA	NA	No
	Others NA		NA	NA	No

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