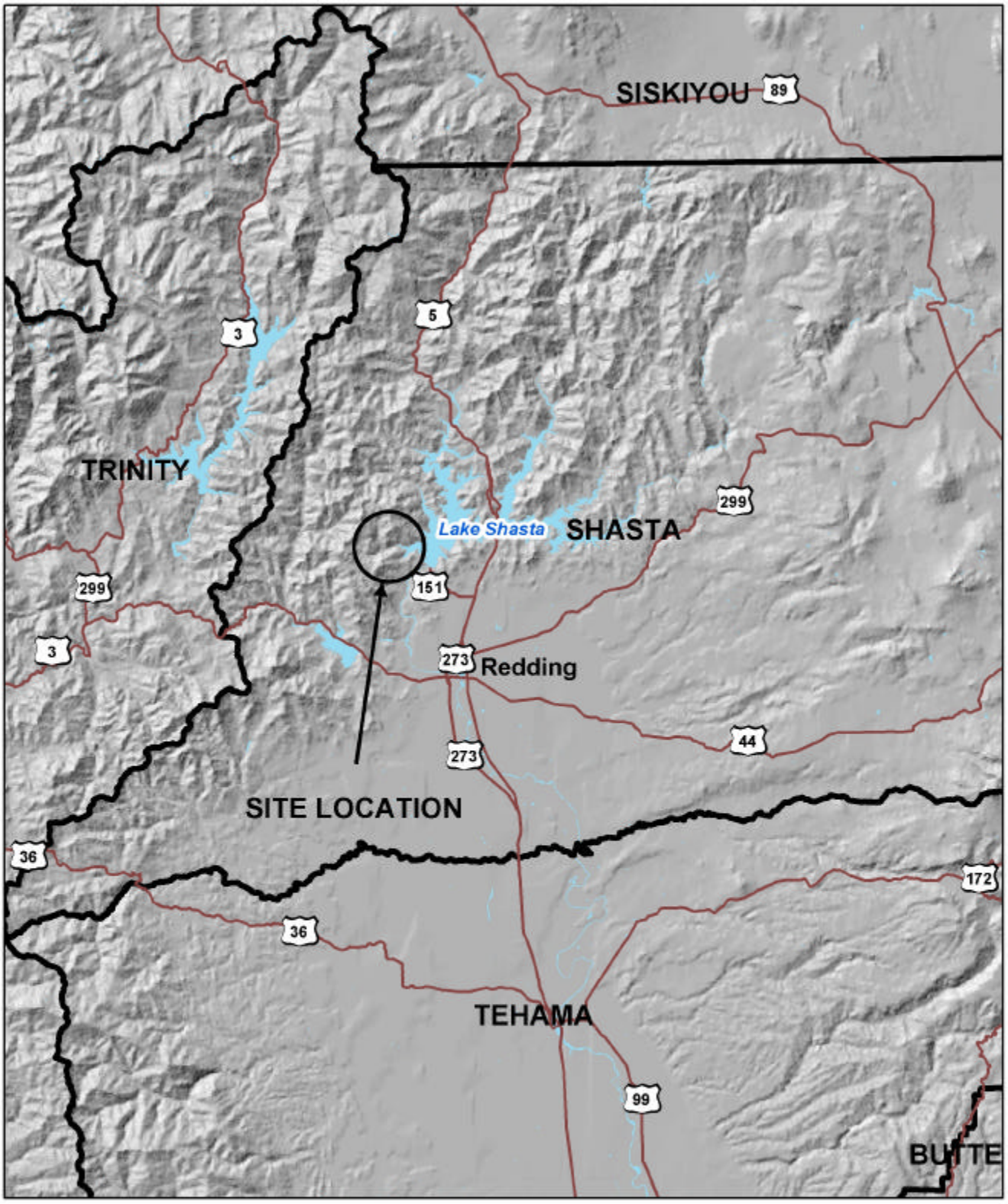

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FIGURE 1-1
GENERAL SITE LOCATION
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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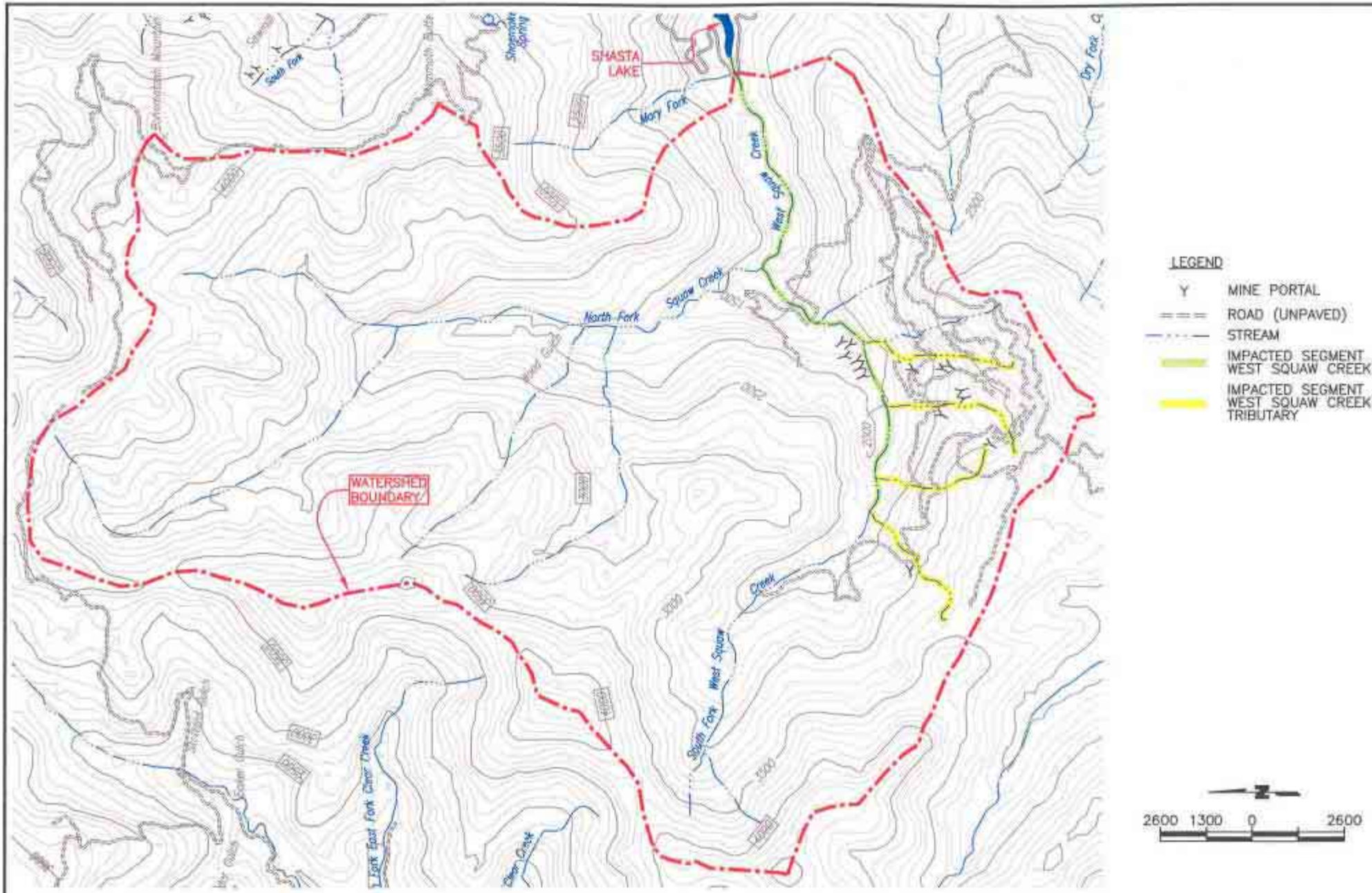

FIGURE 1-2
SITE VICINITY MAP
WEST SQUAW CREEK WATERSHED
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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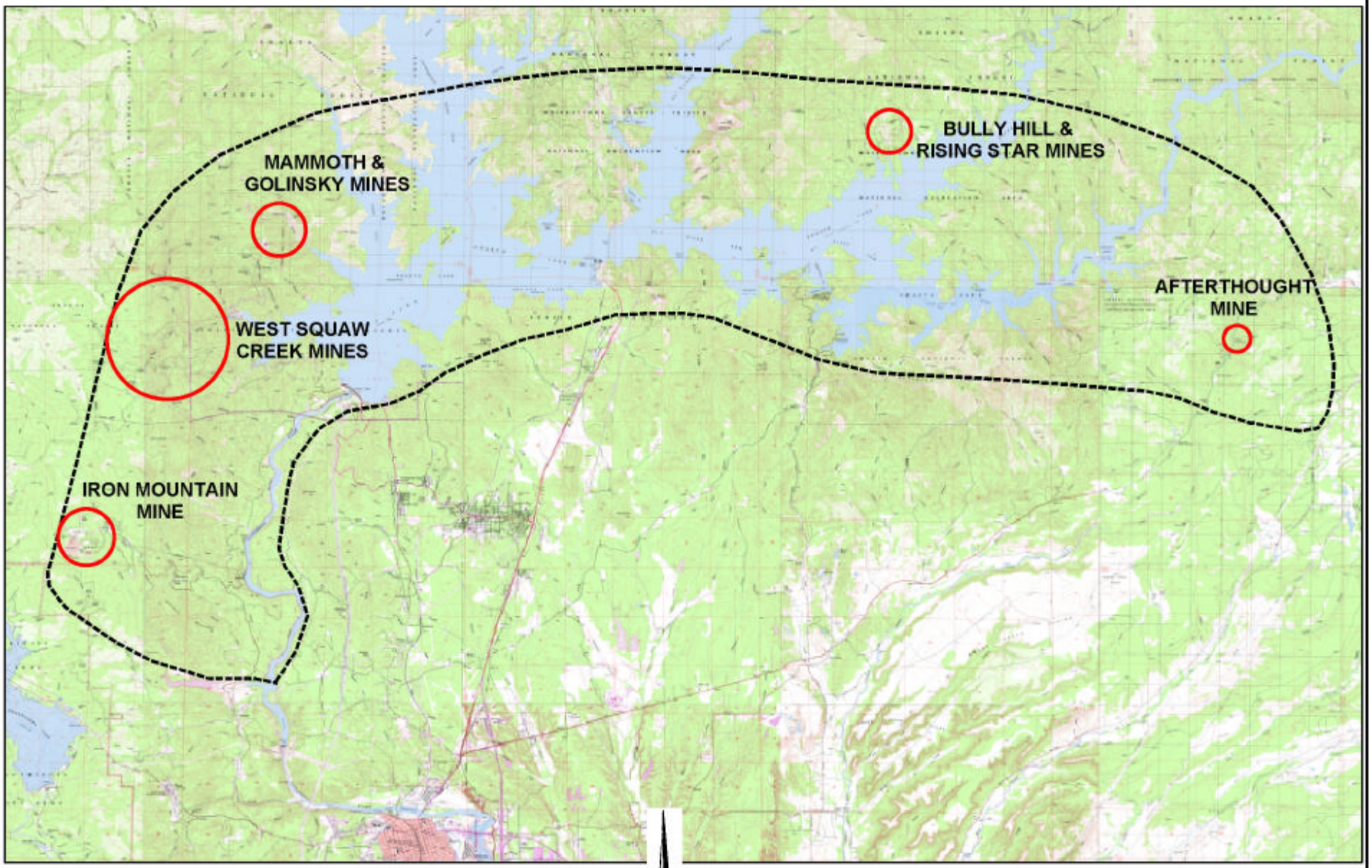

FIGURE 1-3
COPPER CRESCENT
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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SOURCE: USGS

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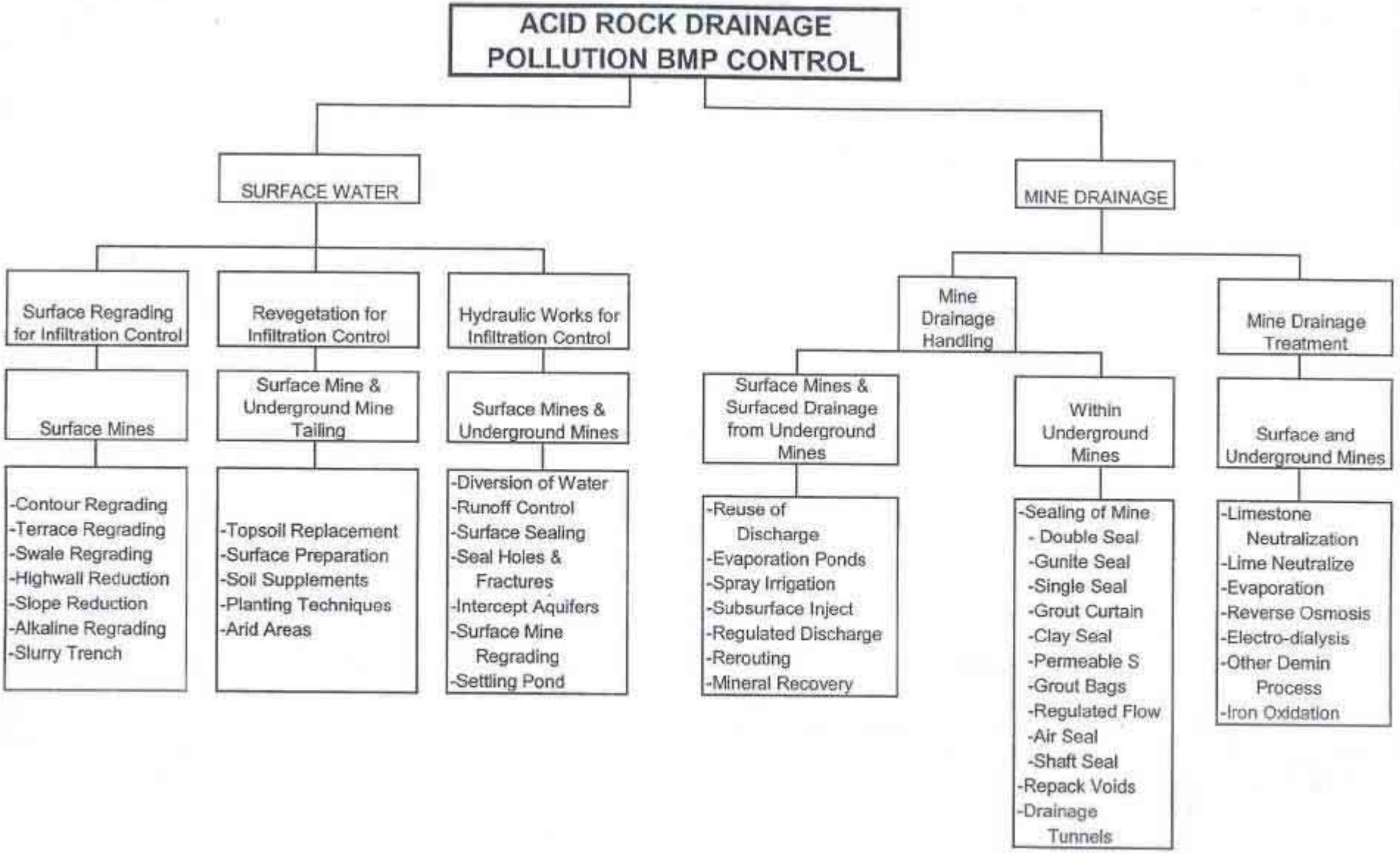

FIGURE 1-4
RWQCB BEST MANAGEMENT PRACTICE STRATEGIES TO CONTROL ARD
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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SOURCE: SWRCB, 1979

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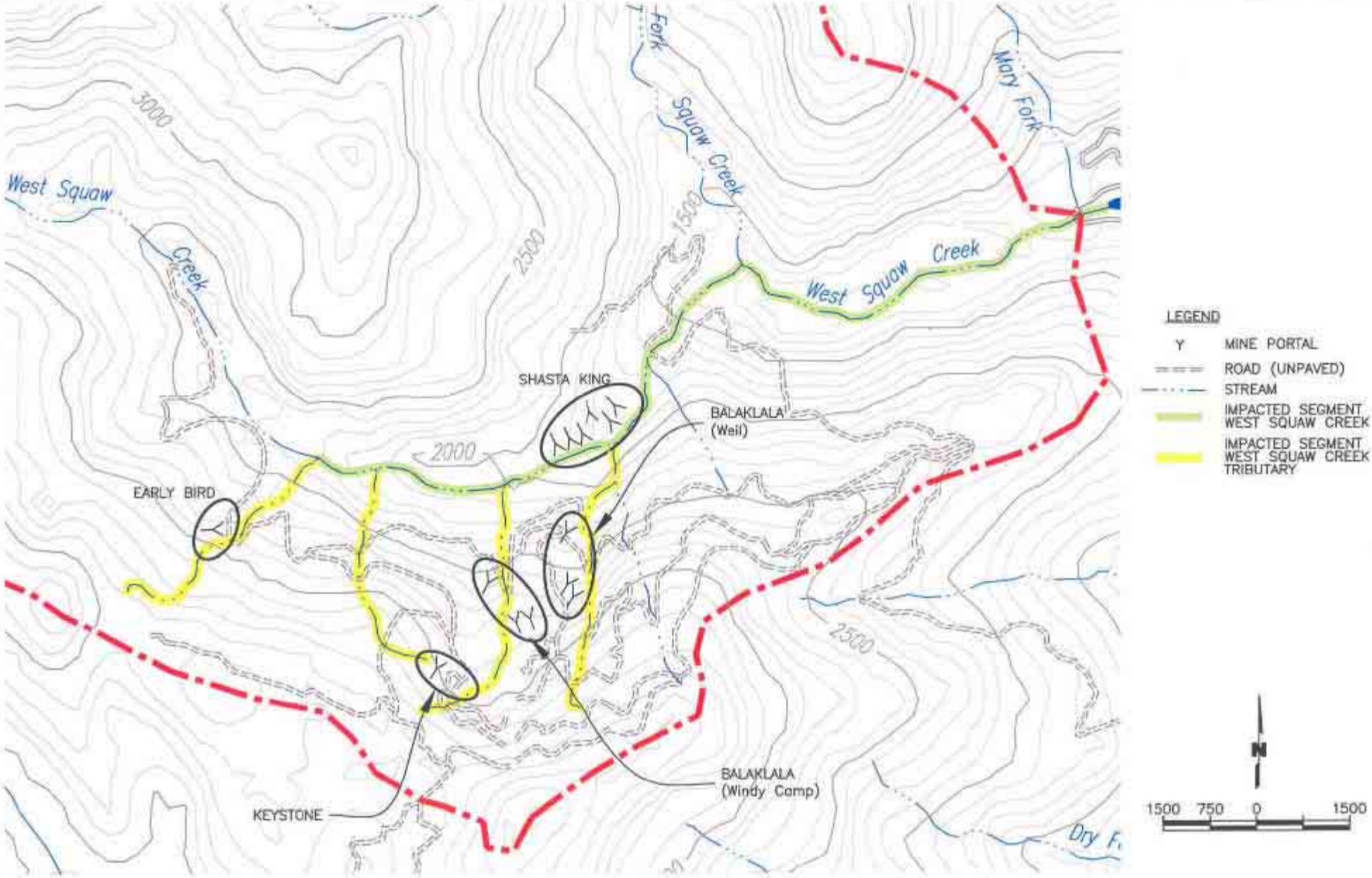

FIGURE 2-1
MAJOR MINING AREAS
WEST SQUAW CREEK WATERSHED
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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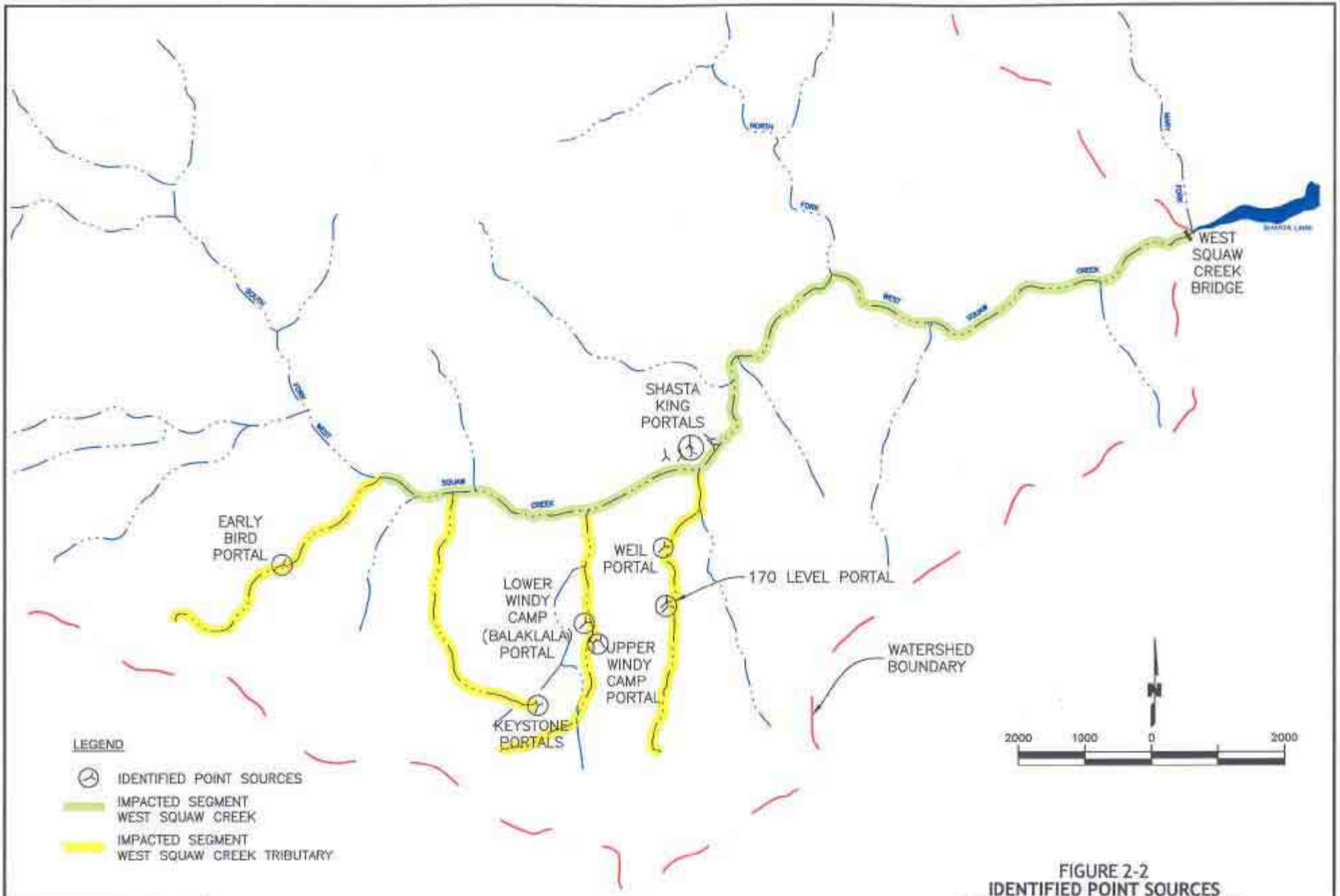

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FIGURE 2-2
IDENTIFIED POINT SOURCES
WEST SQUAW CREEK WATERSHED
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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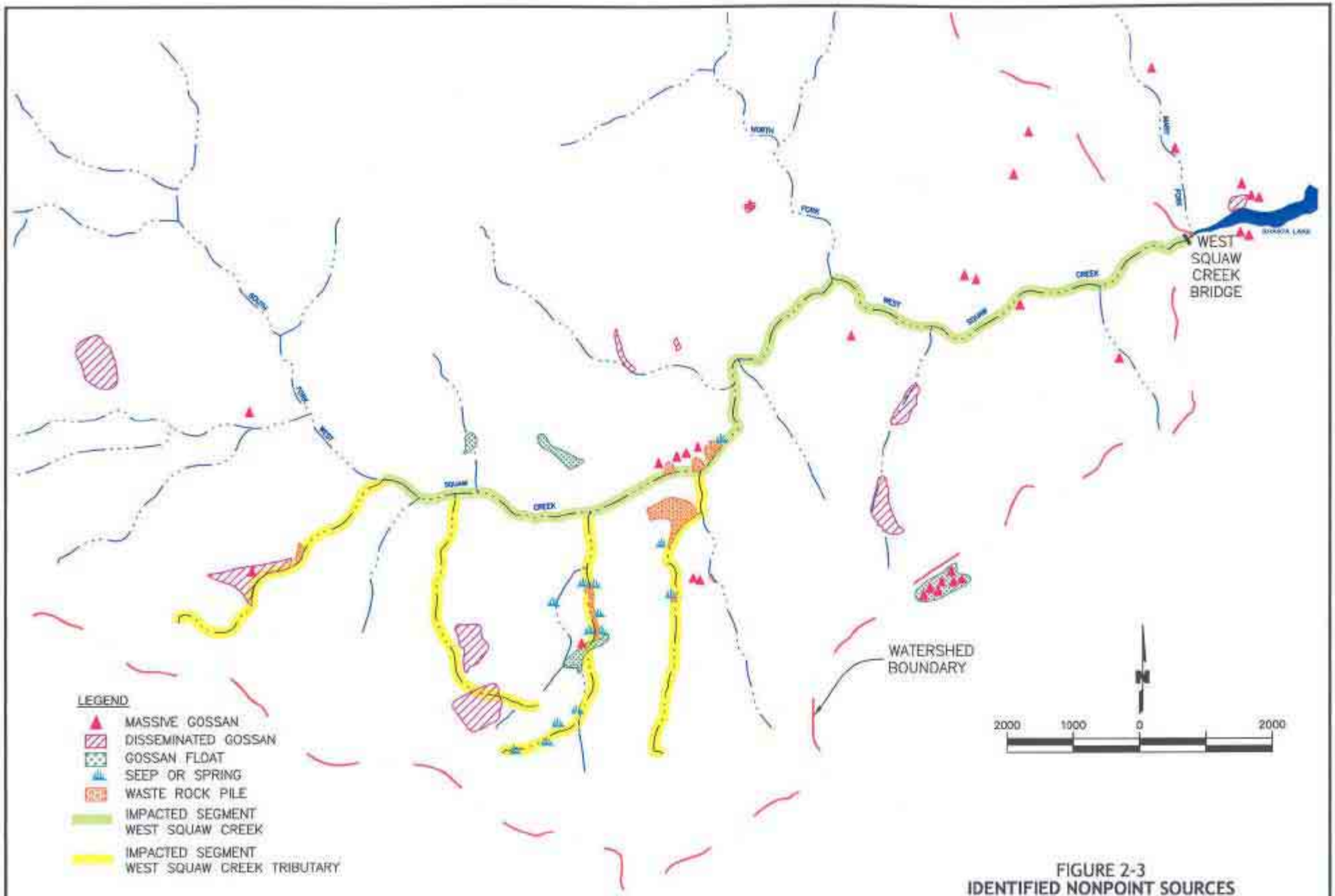

FIGURE 2-3
IDENTIFIED NONPOINT SOURCES
WASTE ROCK PILES, GOSSAN AREAS & SEEPS
MINING REMEDIAL RECOVERY COMPANY
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FIGURE 2-4
WEIL PORTAL
ORIGINAL BULKHEAD INSTALLED 1980
MINING REMEDIAL RECOVERY COMPANY
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FIGURE 2-5
TYPICAL WEIL WEIR
INSTALLED 2003
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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FIGURE 2-6
EARLY BIRD BULKHEAD
INSTALLED 1987
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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FIGURE 2-7
ORIGINAL SHASTA KING BULKHEAD
INSTALLED 1989
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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FIGURE 2-8
SHASTA KING BULKHEAD
REHABILITATED 2003
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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FIGURE 2-9
LOWER WINDY CAMP (BALAKLALA 11) PORTAL
ORIGINAL BULKHEAD INSTALLED 1985
MINING REMEDIAL RECOVERY COMPANY
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FIGURE 2-10
UPPER WINDY CAMP GABION CHANNEL
INSTALLED 1996
MINING REMEDIAL RECOVERY COMPANY
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FIGURE 2-11
UPPER WINDY CAMP WASTE ROCK PILE
COMPLETED 1996
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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FIGURE 2-12
MAIN KEYSTONE TUNNEL
EXTERNAL BULKHEAD INSTALLED 1992
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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FIGURE 2-13
UPPER WINDY CREEK DIVERSION STRUCTURE
INSTALLED 1996
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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FIGURE 2-14
KEYSTONE TUNNEL LIMESTONE INJECTION
COMPLETED 1998
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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FIGURE 2-15
KEYSTONE WETLAND TREATMENT CELL
COMPLETED 2000
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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FIGURE 2-16
KEYSTONE CLEAR WATER DIVERSION CHANNEL
COMPLETED 2000
MINING REMEDIAL RECOVERY COMPANY
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FIGURE 2-17
UPPER WINDY CAMP PORTAL DISCHARGE
ANOXIC LIMESTONE DRAIN INSTALLED 1996
MINING REMEDIAL RECOVERY COMPANY
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FIGURE 2-18
WEIL 170-LEVEL PORTAL
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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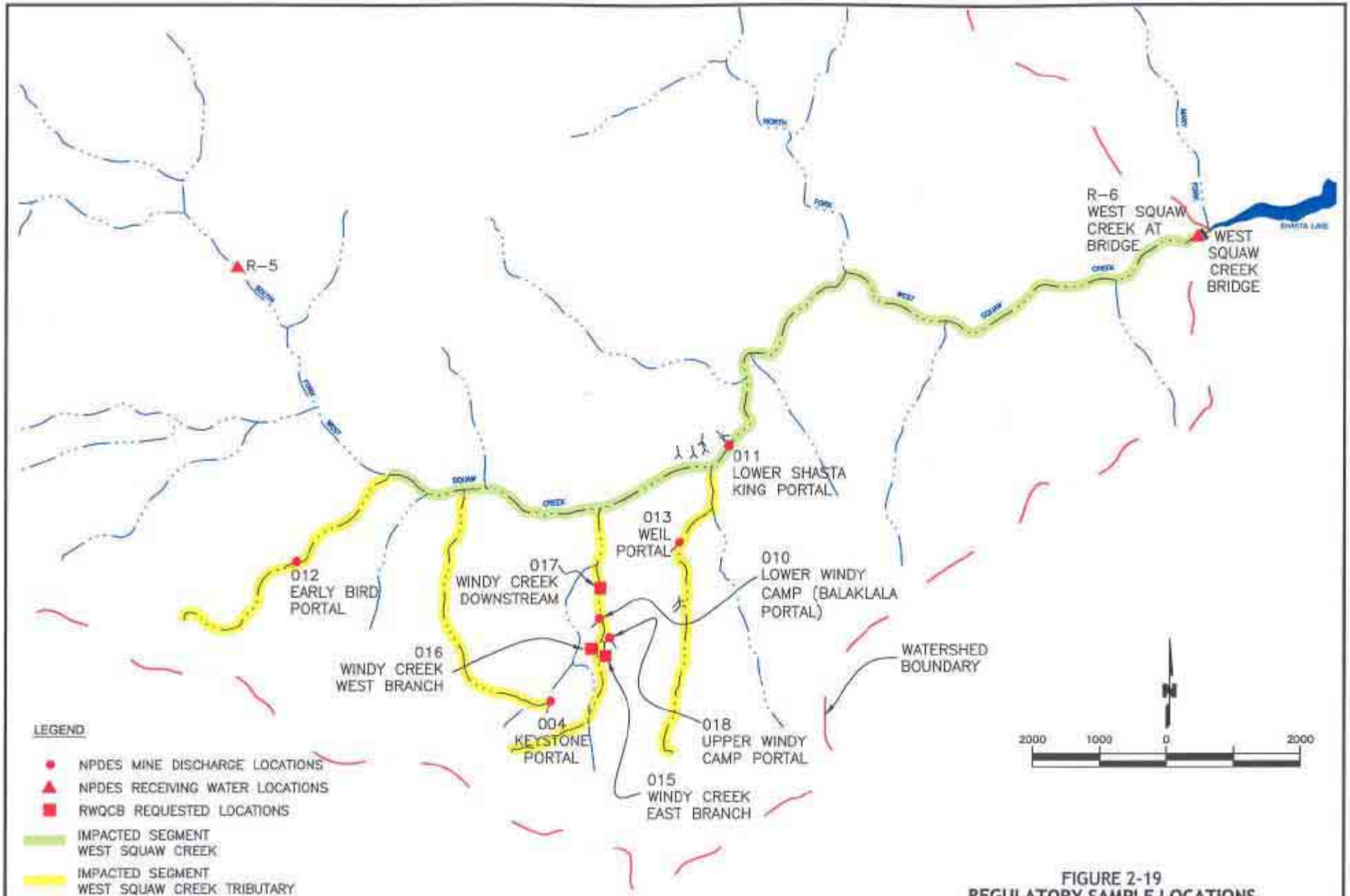

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FIGURE 2-19
REGULATORY SAMPLE LOCATIONS
WEST SQUAW CREEK WATERSHED
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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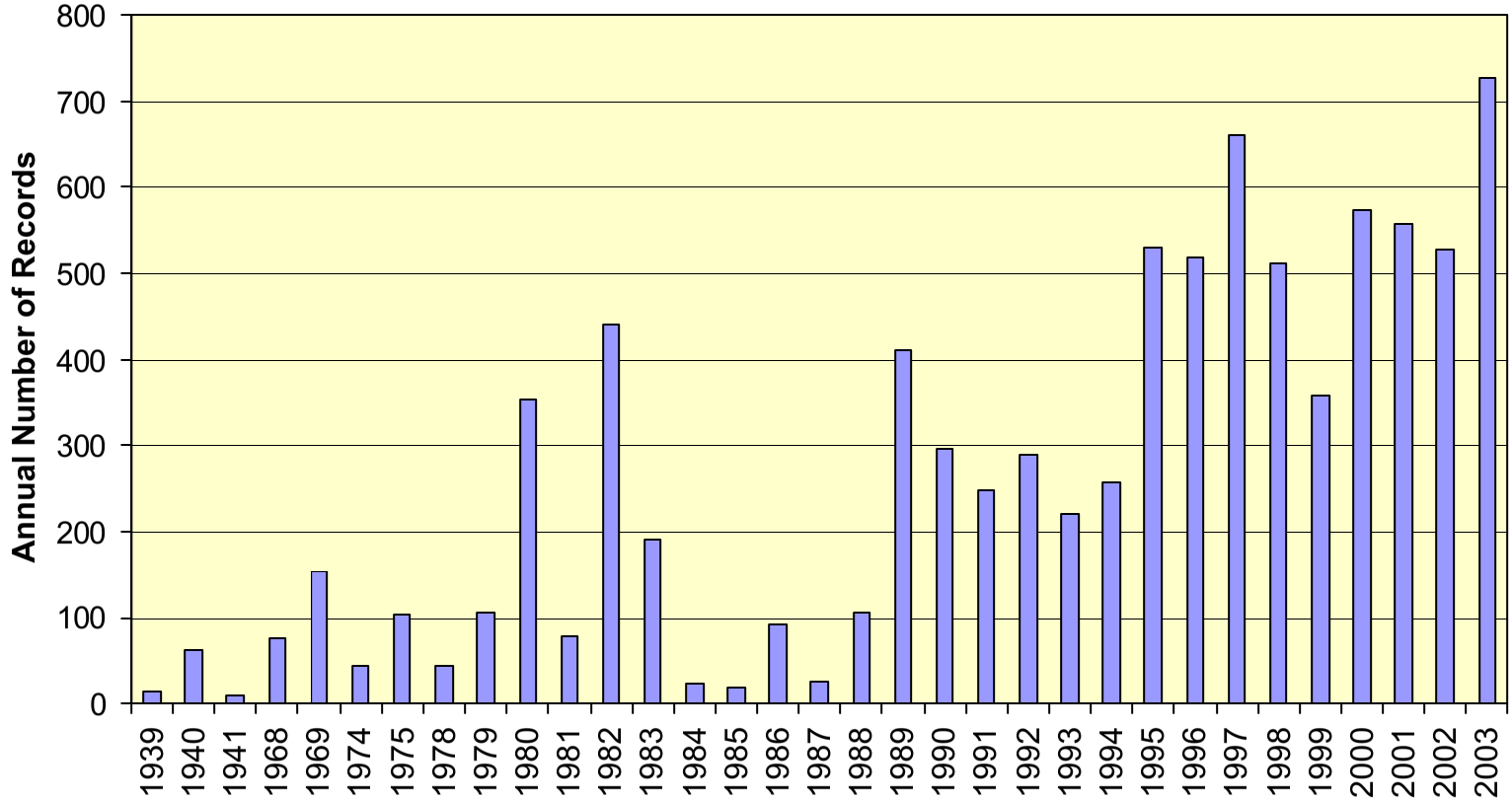

FIGURE 2-20
ANNUAL NUMBER RECORDS
pH, Cd, Cu, Zn and FLOW
ALL SAMPLE LOCATIONS
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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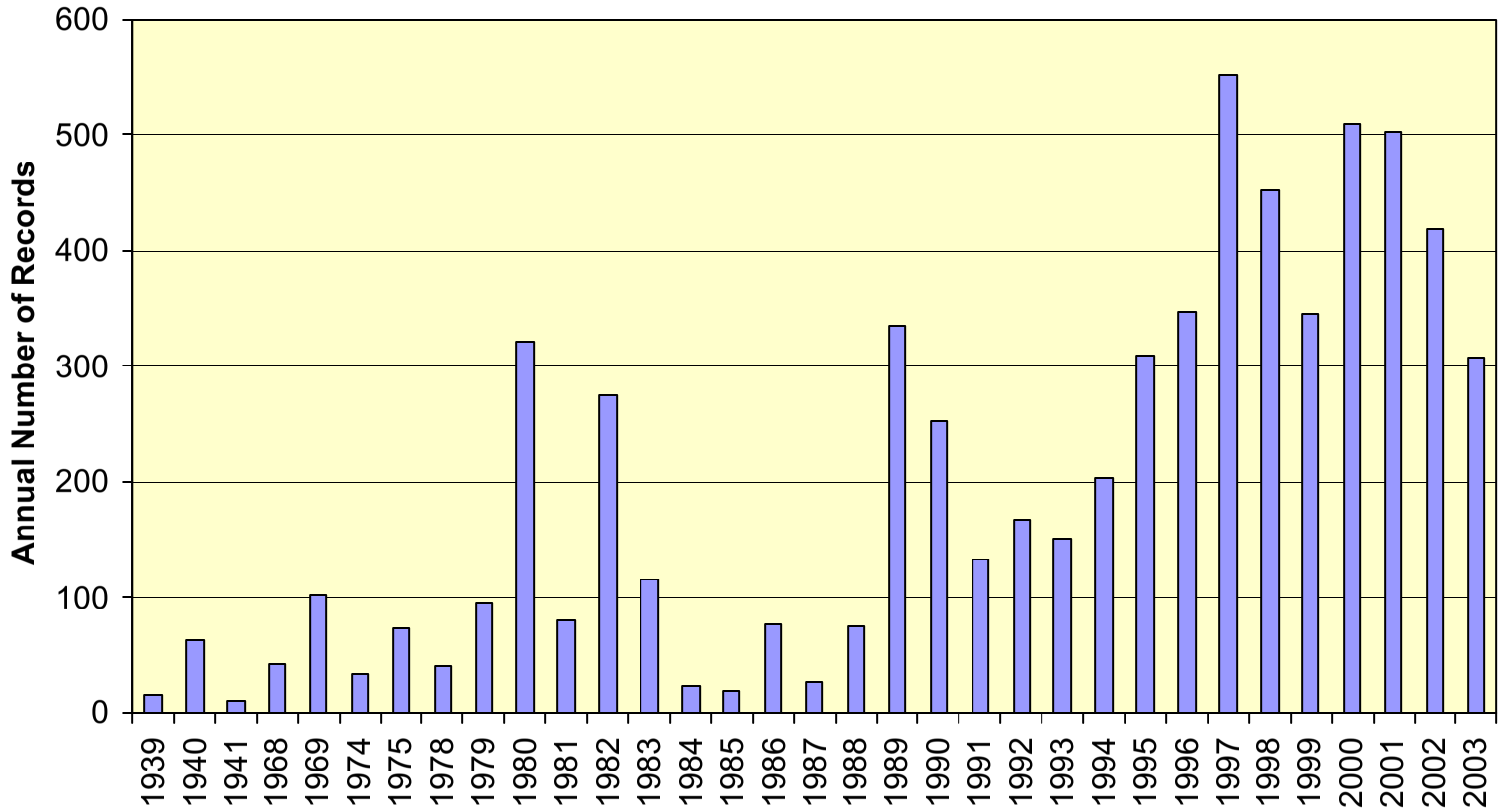

FIGURE 2-21
ANNUAL NUMBER RECORDS
pH, Cd, Cu, Zn and FLOW
REGULATORY SAMPLE LOCATIONS
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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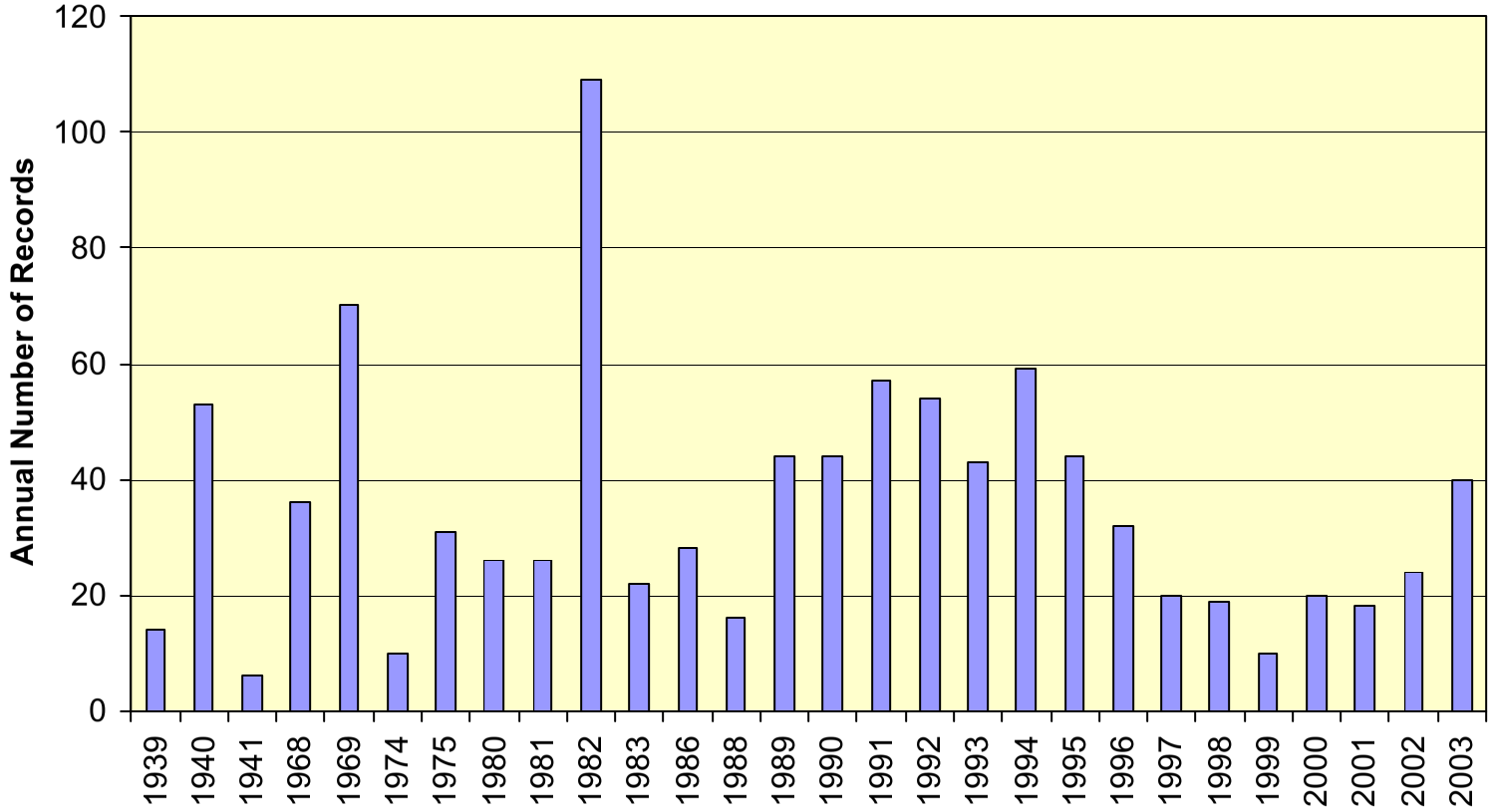

FIGURE 2-22
ANNUAL NUMBER RECORDS
pH, Cd, Cu, Zn and FLOW
WEST SQUAW CREEK BRIDGE
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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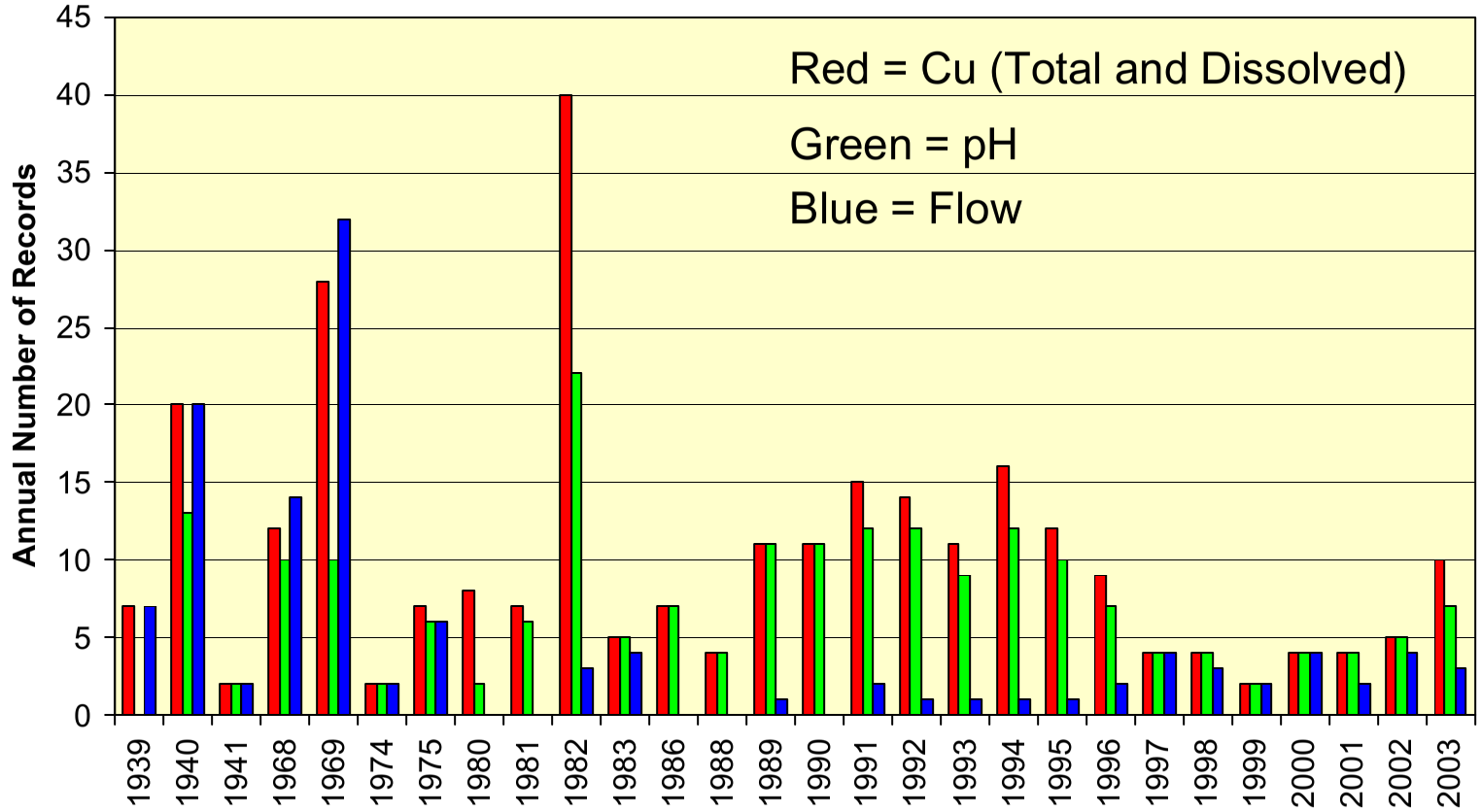

FIGURE 2-23
ANNUAL NUMBER RECORDS
pH, Cu and FLOW
WEST SQUAW CREEK BRIDGE
MINING REMEDIAL RECOVERY COMPANY

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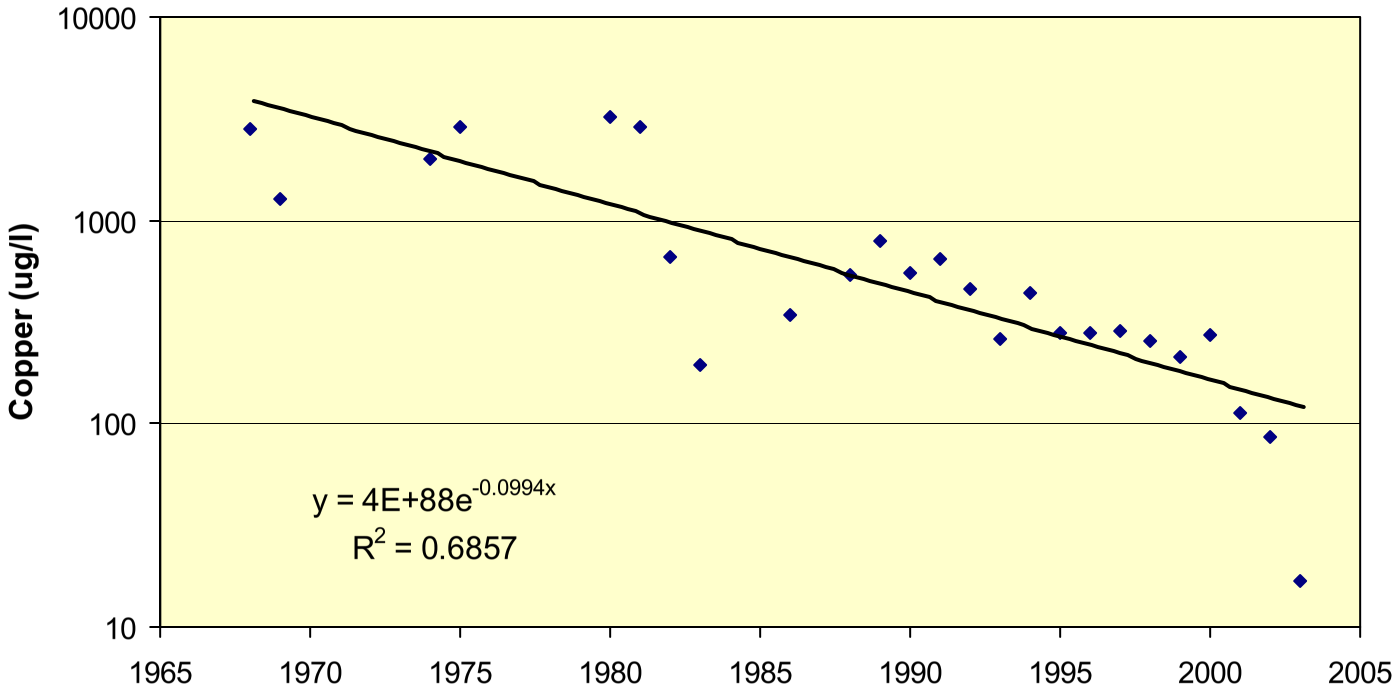

FIGURE 2-24
AVERAGE ANNUAL DISSOLVED COPPER CONCENTRATIONS
WEST SQUAW CREEK BRIDGE
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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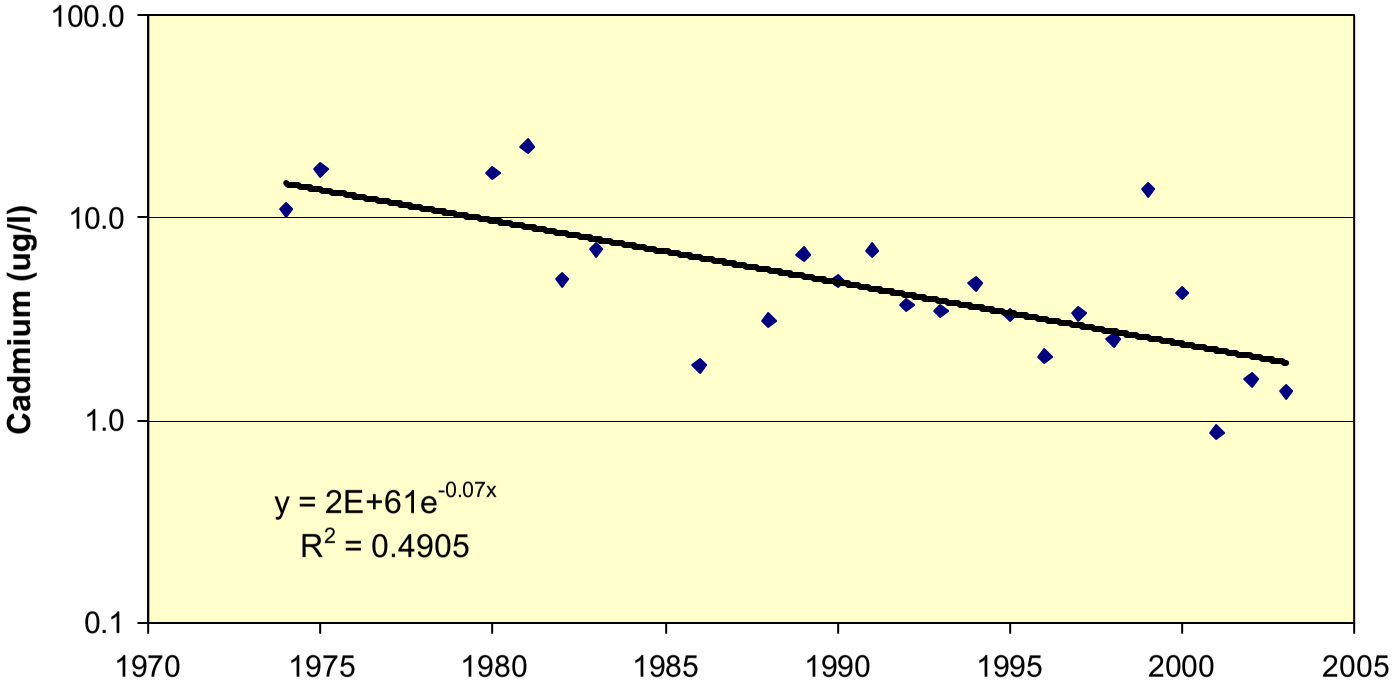

FIGURE 2-25
AVERAGE ANNUAL DISSOLVED CADMIUM CONCENTRATIONS
WEST SQUAW CREEK BRIDGE
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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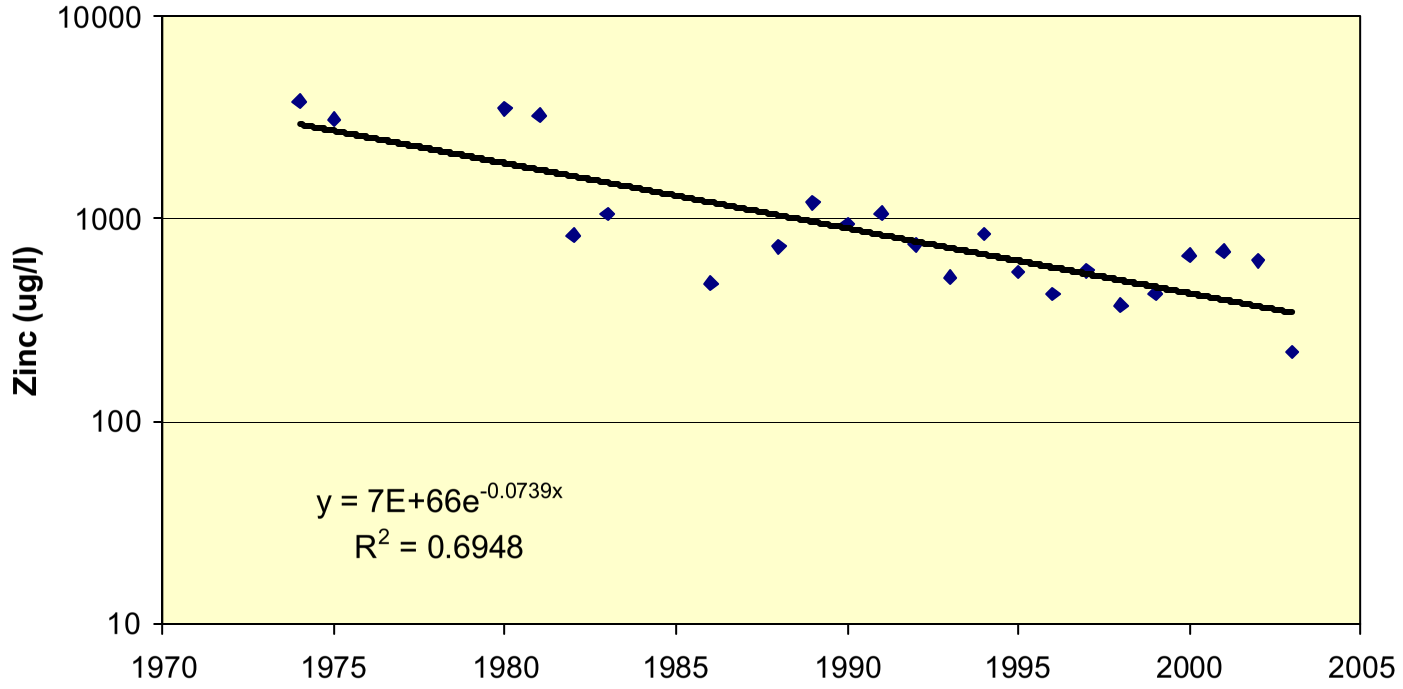

FIGURE 2-26
AVERAGE ANNUAL DISSOLVED ZINC CONCENTRATIONS
WEST SQUAW CREEK BRIDGE
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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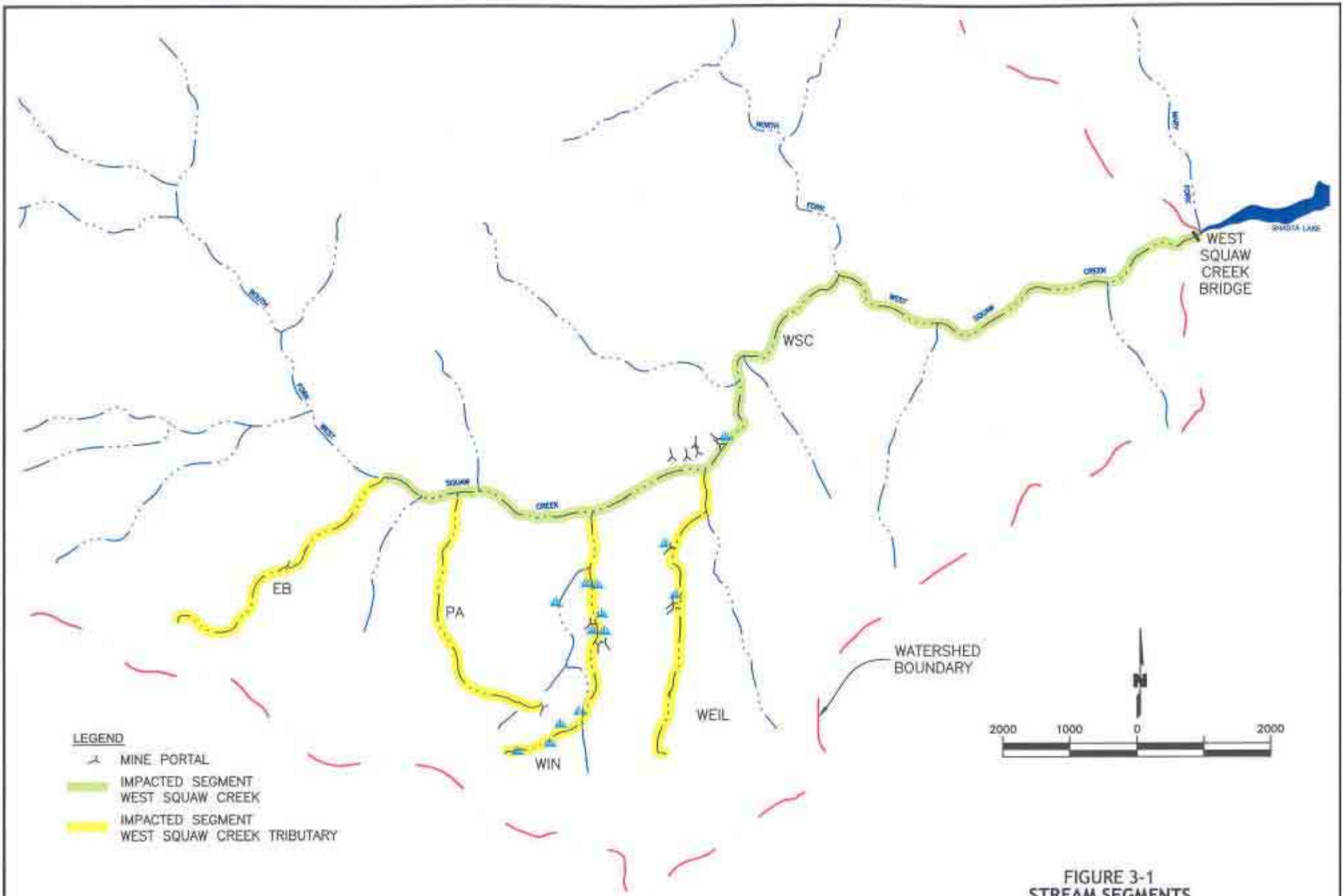

FIGURE 3-1
STREAM SEGMENTS
WEST SQUAW CREEK WATERSHED
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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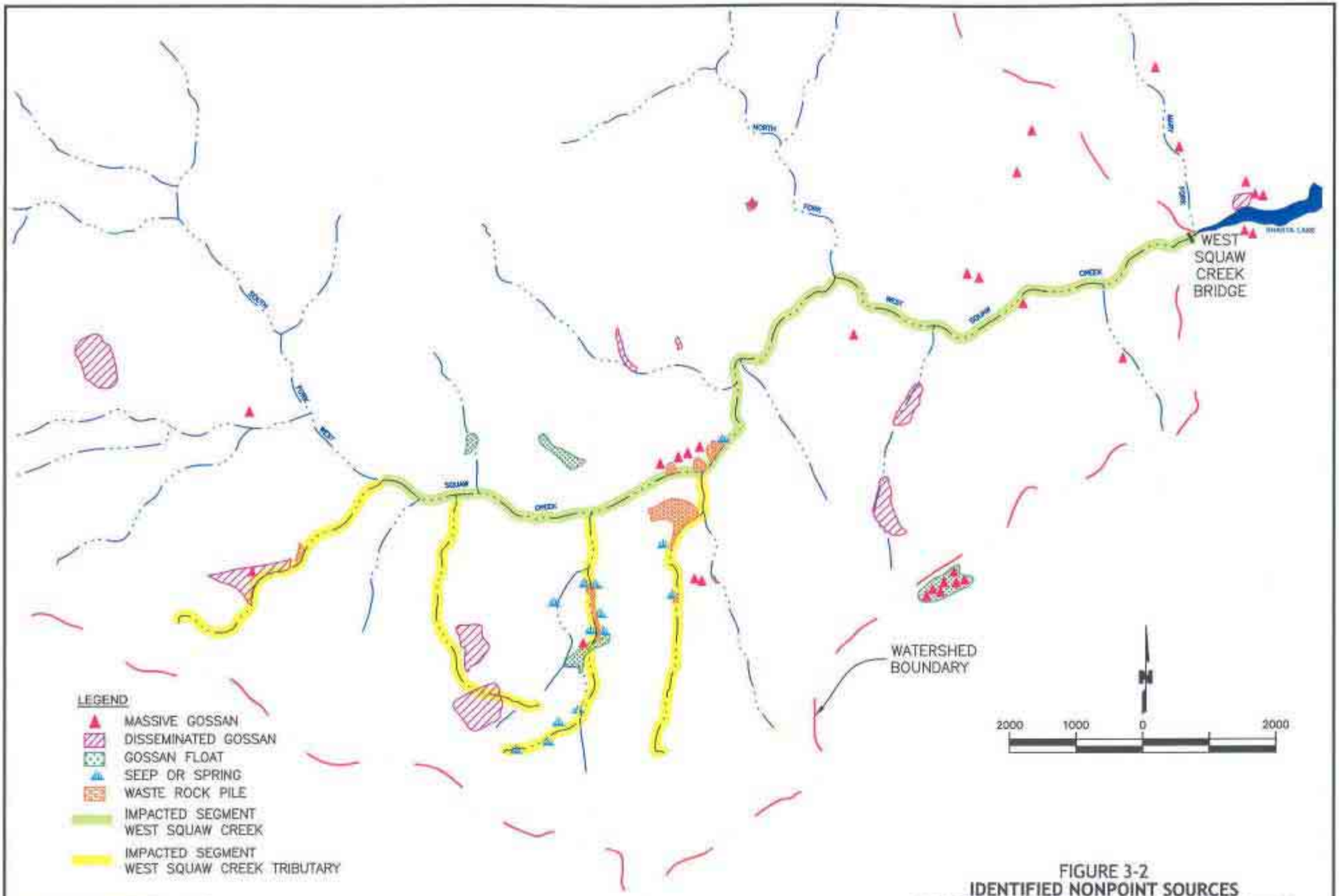

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FIGURE 3-2
IDENTIFIED NONPOINT SOURCES
WASTE ROCK PILES, GOSSAN AREAS & SEEPS
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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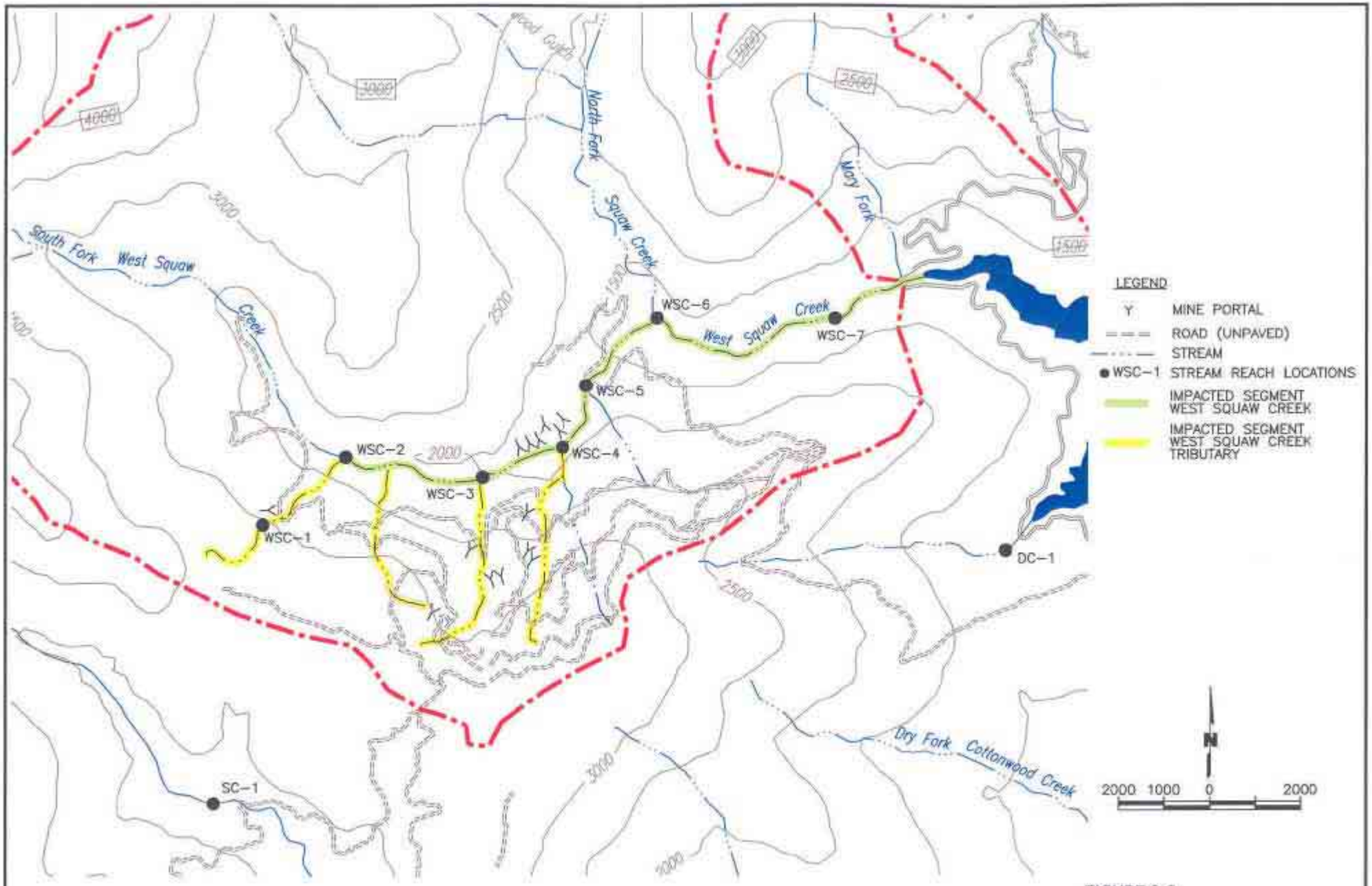

FIGURE 3-3
STREAM REACH LOCATIONS
DFG BIOASSESSMENT
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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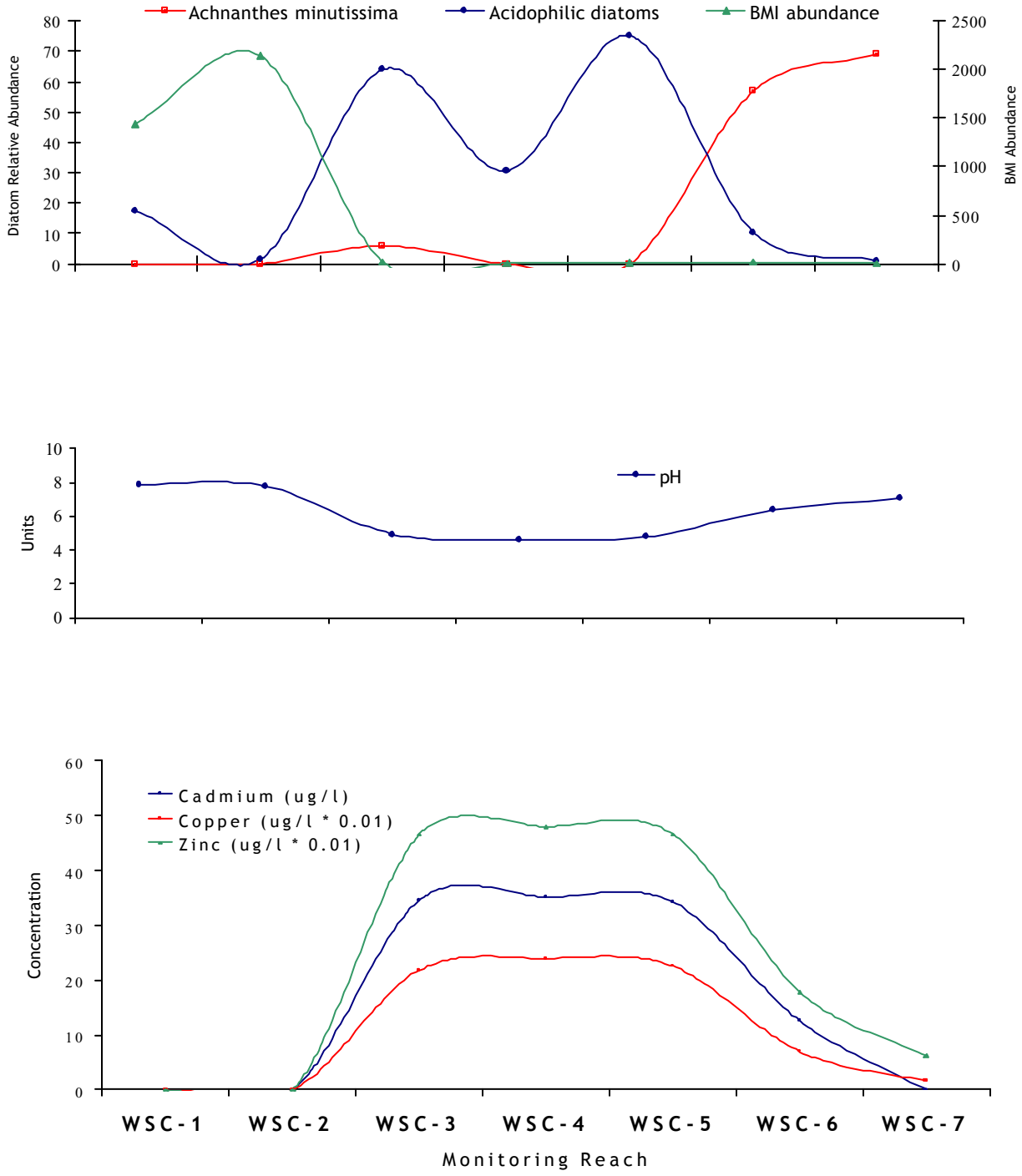

FIGURE 3-4
BIOLOGICAL ASSESSMENT RESULTS
WEST SQUAW CREEK WATERSHED
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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SOURCE: California Department of Fish and Game (2001)

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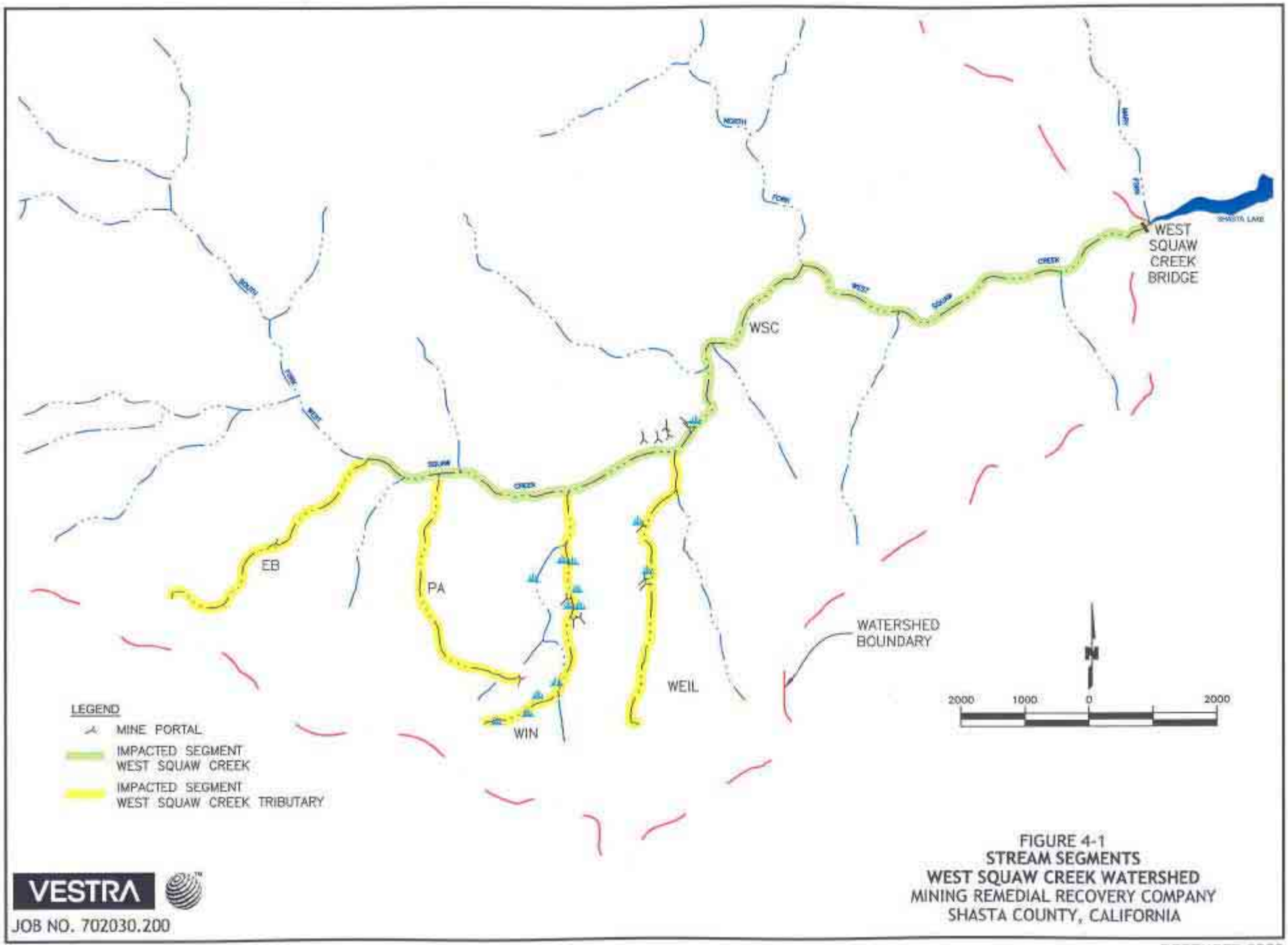

FIGURE 4-1
STREAM SEGMENTS
WEST SQUAW CREEK WATERSHED
MINING REMEDIAL RECOVERY COMPANY
SHASTA COUNTY, CALIFORNIA

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