
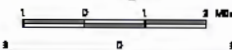

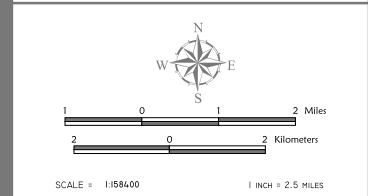
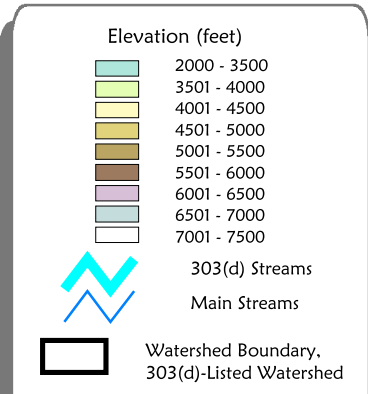
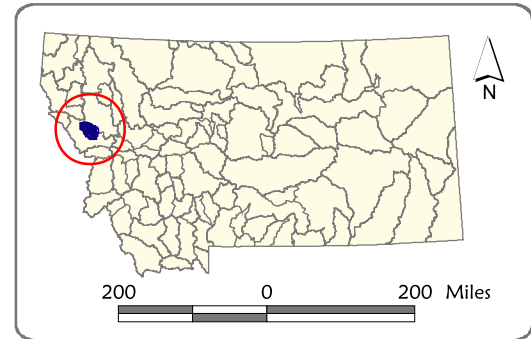
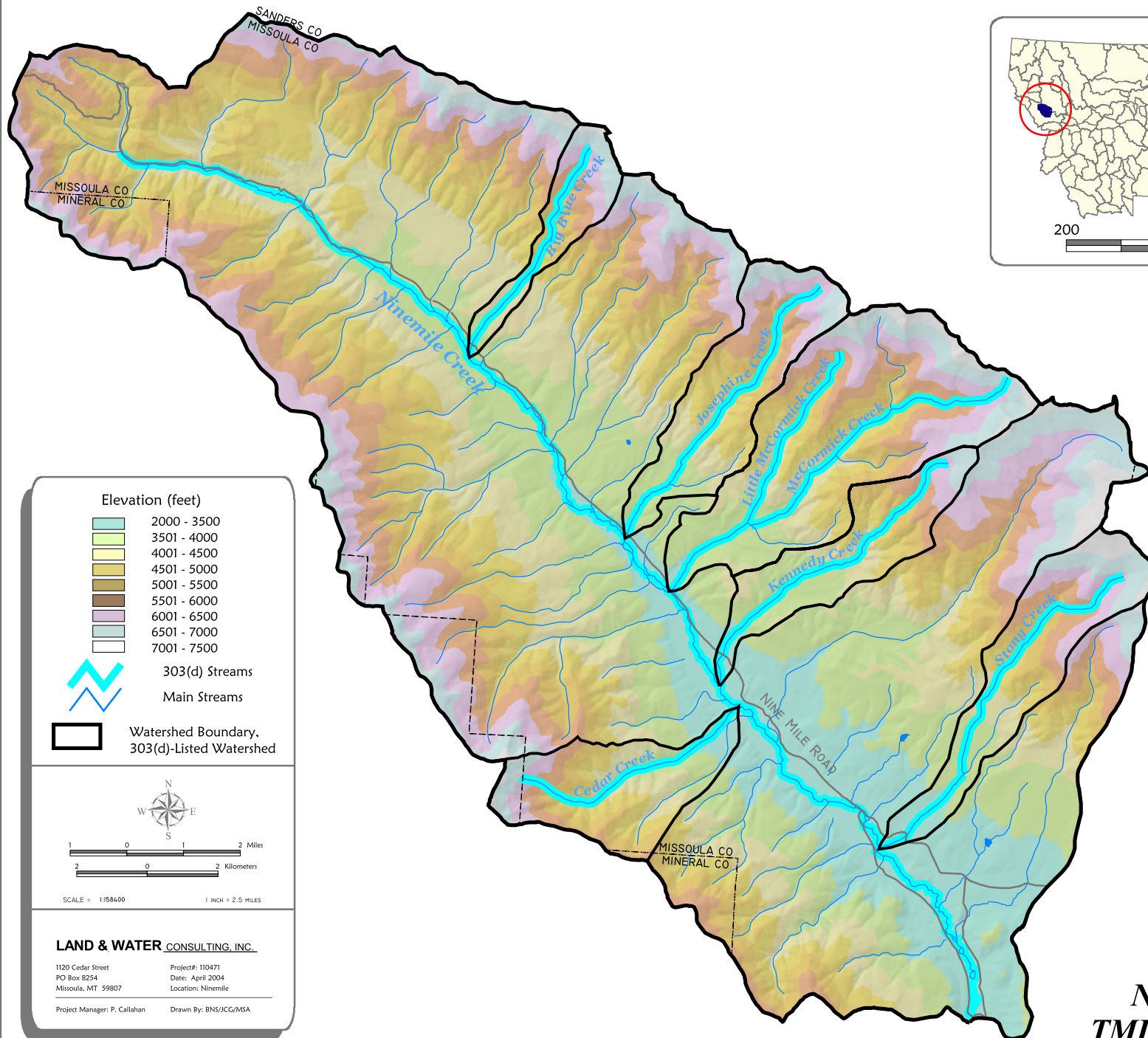


Map 2-1.
Location of the
Ninemile TMDL
Planning Area

-  Watershed Boundary, 303(d)-Listed Watershed
-  303(d) Listed Stream
-  Montana State Trust Lands
-  Plum Creek Timber Company
-  Private Land
-  Salish and Kootenai Tribal Lands
-  US Forest Service
-  Bureau of Indian Affairs Trust Land
-  US Fish and Wildlife Service




 SCALE = 1:80000 1 inch = 0.2 miles

LAND & WATER CONSULTING, INC.
 1120 Cedar Street Project: 150471
 PO Box 8854 Date: November 2004
 Missoula, MT 59707 Location: Ninemile
 Project Manager: F. Callahan Drawn by: SNE/CGMBA



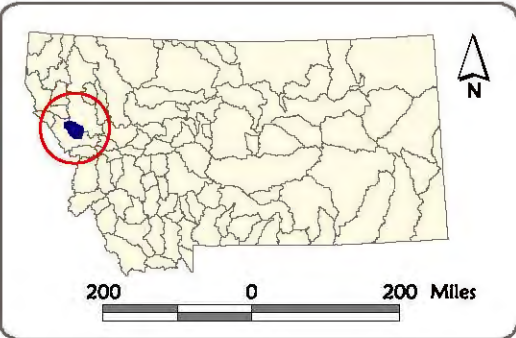
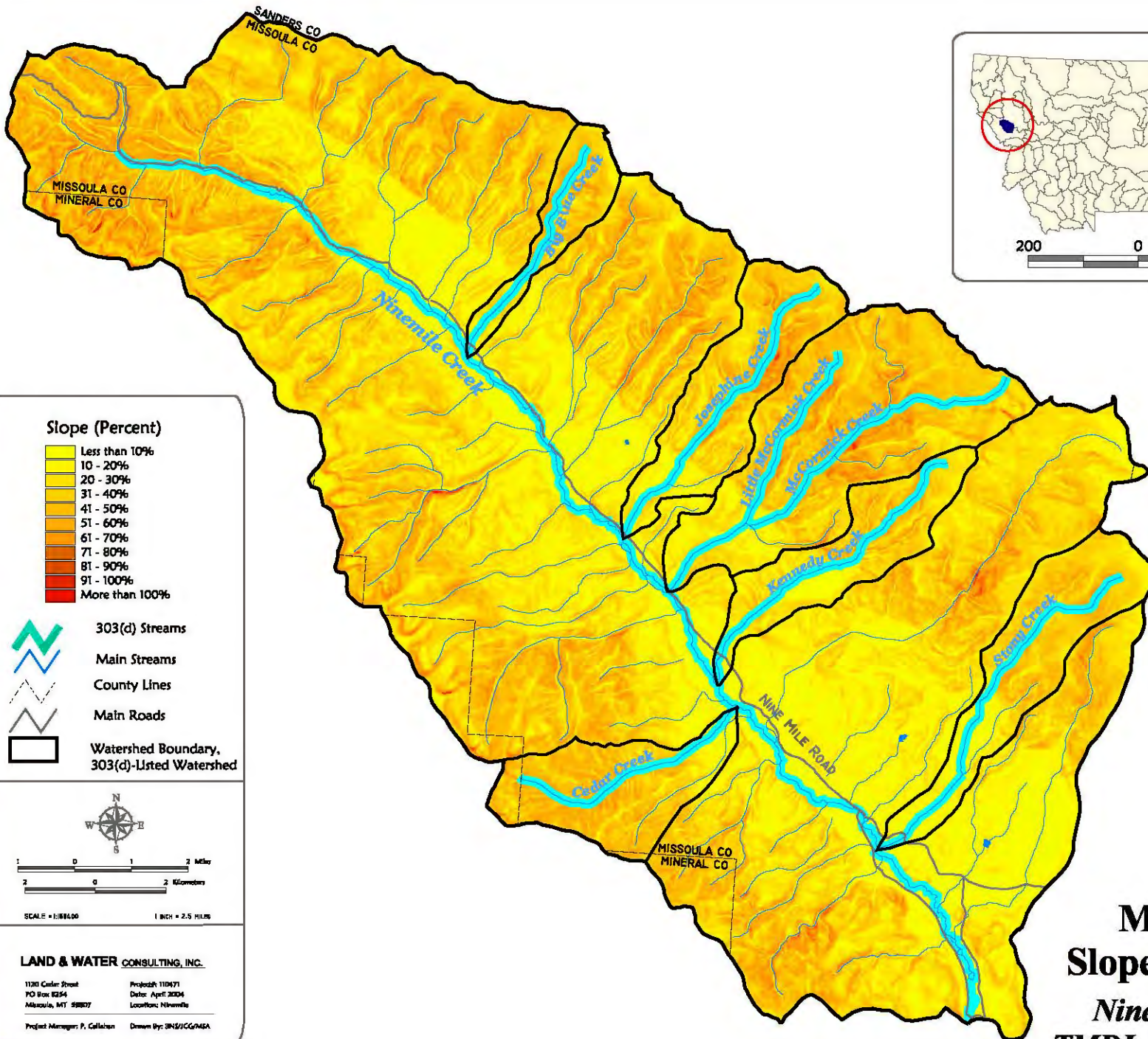
LAND & WATER CONSULTING, INC.

1120 Cedar Street
 PO Box 8254
 Missoula, MT 59807

Project#: 110471
 Date: April 2004
 Location: Ninemile

Project Manager: P. Callahan
 Drawn By: BNS/JCG/MSA

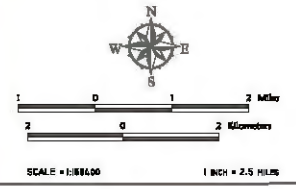
Map 2-2.
Elevation
Ninemile Creek
TMDL Planning Area



Slope (Percent)

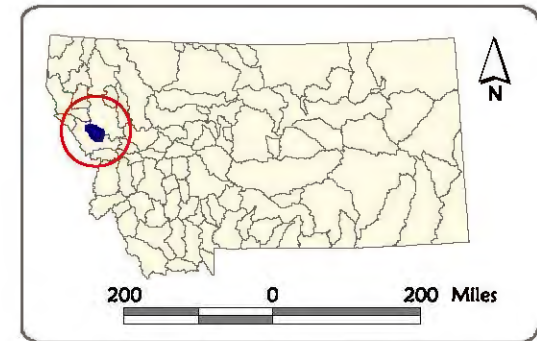
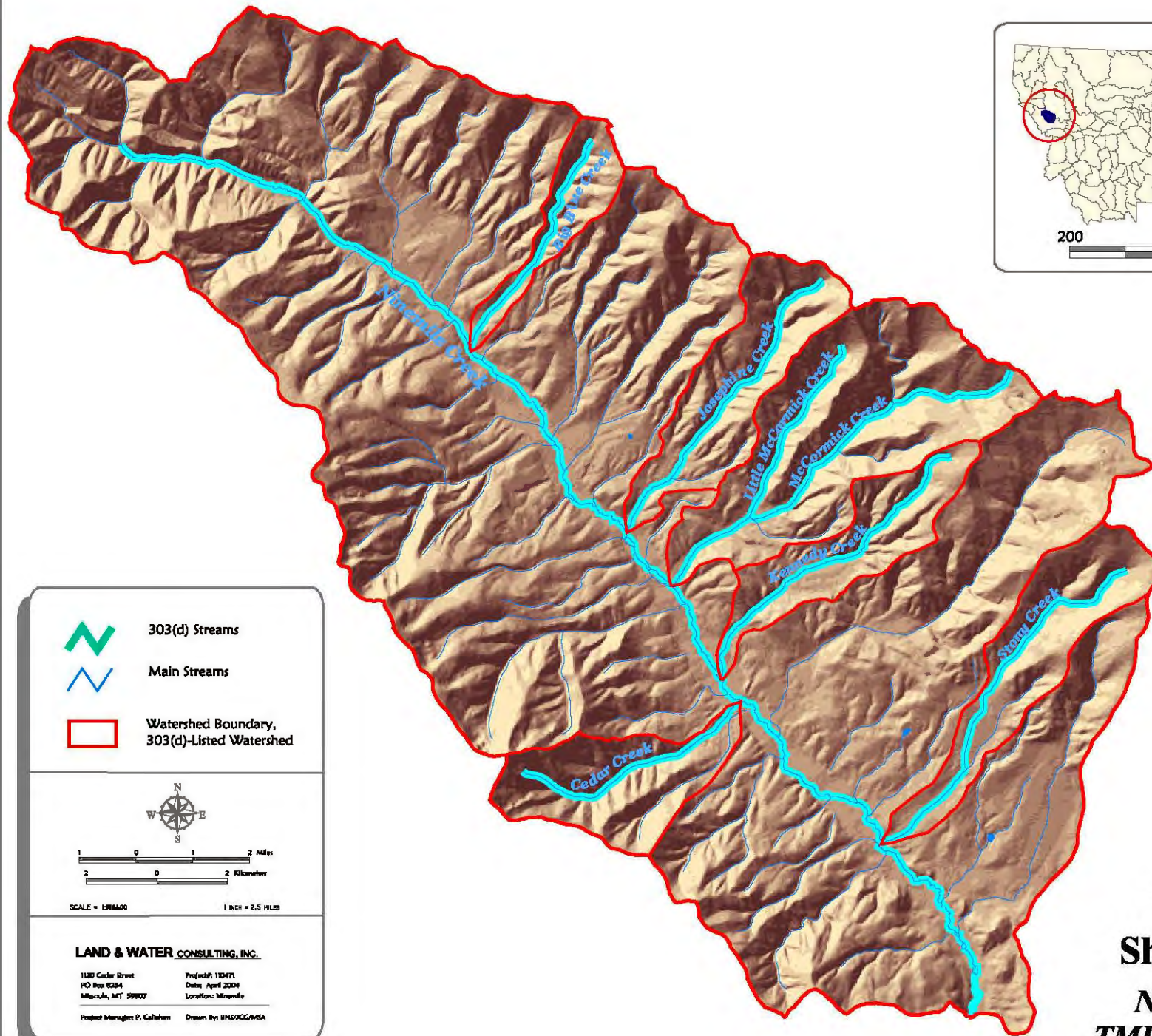
Less than 10%
10 - 20%
20 - 30%
31 - 40%
41 - 50%
51 - 60%
61 - 70%
71 - 80%
81 - 90%
91 - 100%
More than 100%

- 303(d) Streams
- Main Streams
- County Lines
- Main Roads
- Watershed Boundary, 303(d)-Listed Watershed



LAND & WATER CONSULTING, INC.
 1120 Cedar Street
 PO Box 8254
 Missoula, MT 59807
 Project# 110471
 Date: April 2004
 Location: Ninemile
 Project Manager: P. Callahan
 Drawn By: JNS/JCG/MSA

Map 2-3.
Slope (Percent)
Ninemile Creek
TMDL Planning Area



-  303(d) Streams
-  Main Streams
-  Watershed Boundary, 303(d)-Listed Watershed



SCALE = 1:64,000 1 INCH = 2.5 MILES

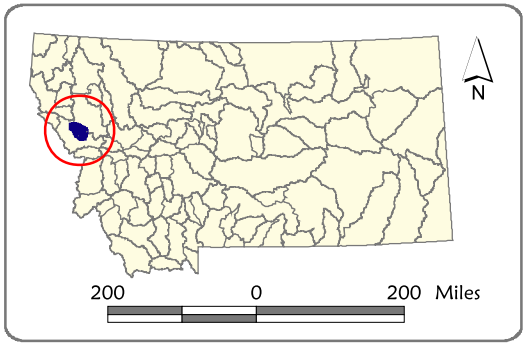
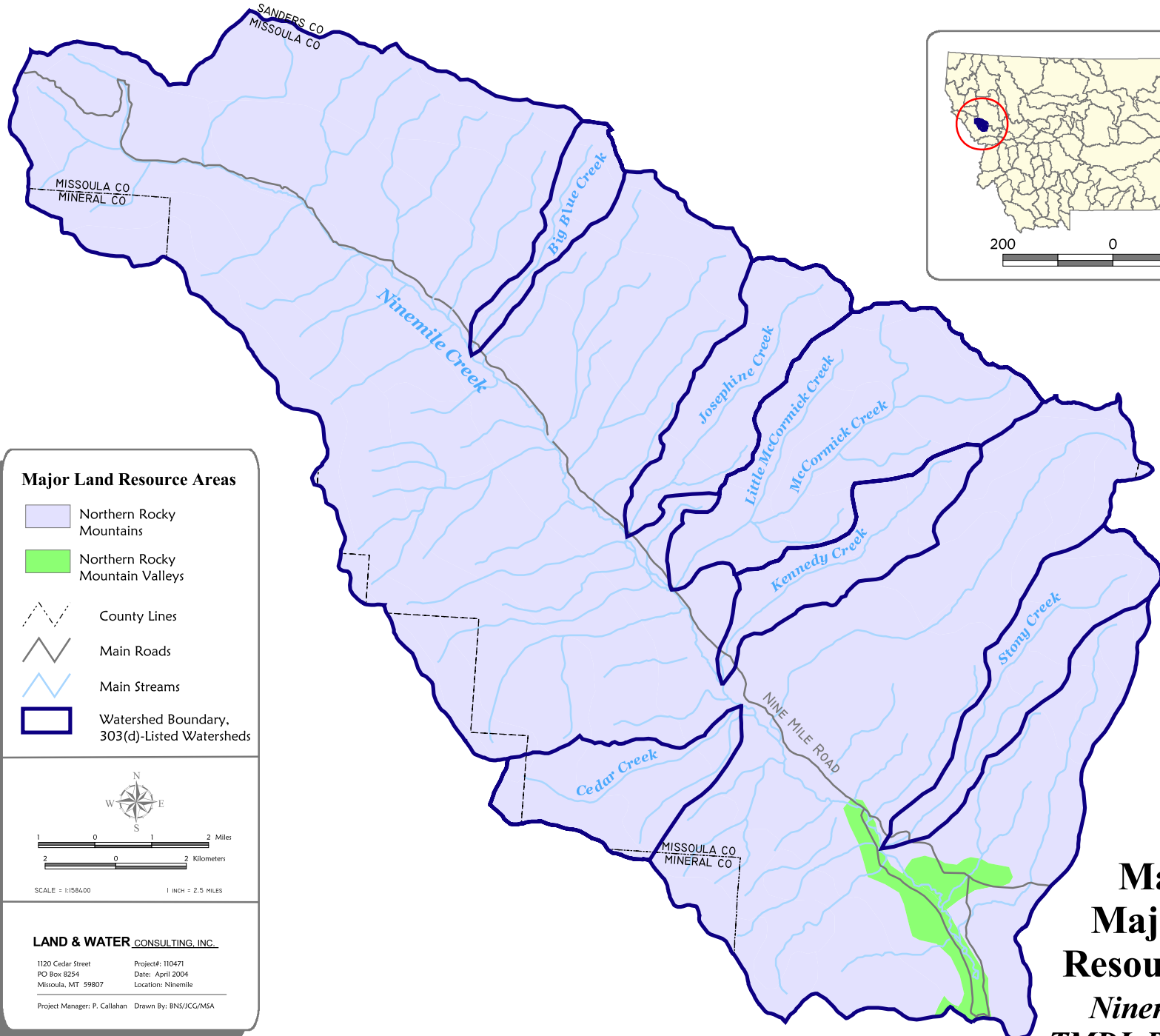
LAND & WATER CONSULTING, INC.

1130 Cedar Street
PO Box 6334
Missoula, MT 59807

Project#: 110471
Date: April 2004
Location: Missoula

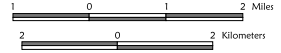
Project Manager: P. Callahan Drawn By: BHS/JCG/MSA

Map 2-4.
Shaded Relief
Ninemile Creek
TMDL Planning Area



Major Land Resource Areas

- Northern Rocky Mountains
- Northern Rocky Mountain Valleys
- County Lines
- Main Roads
- Main Streams
- Watershed Boundary, 303(d)-Listed Watersheds



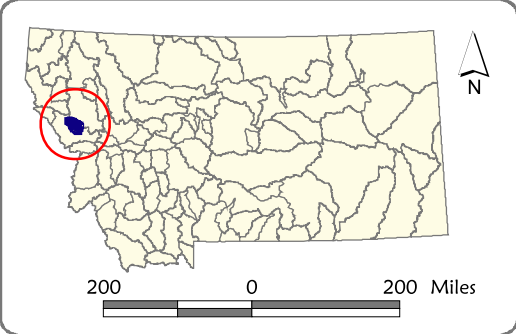
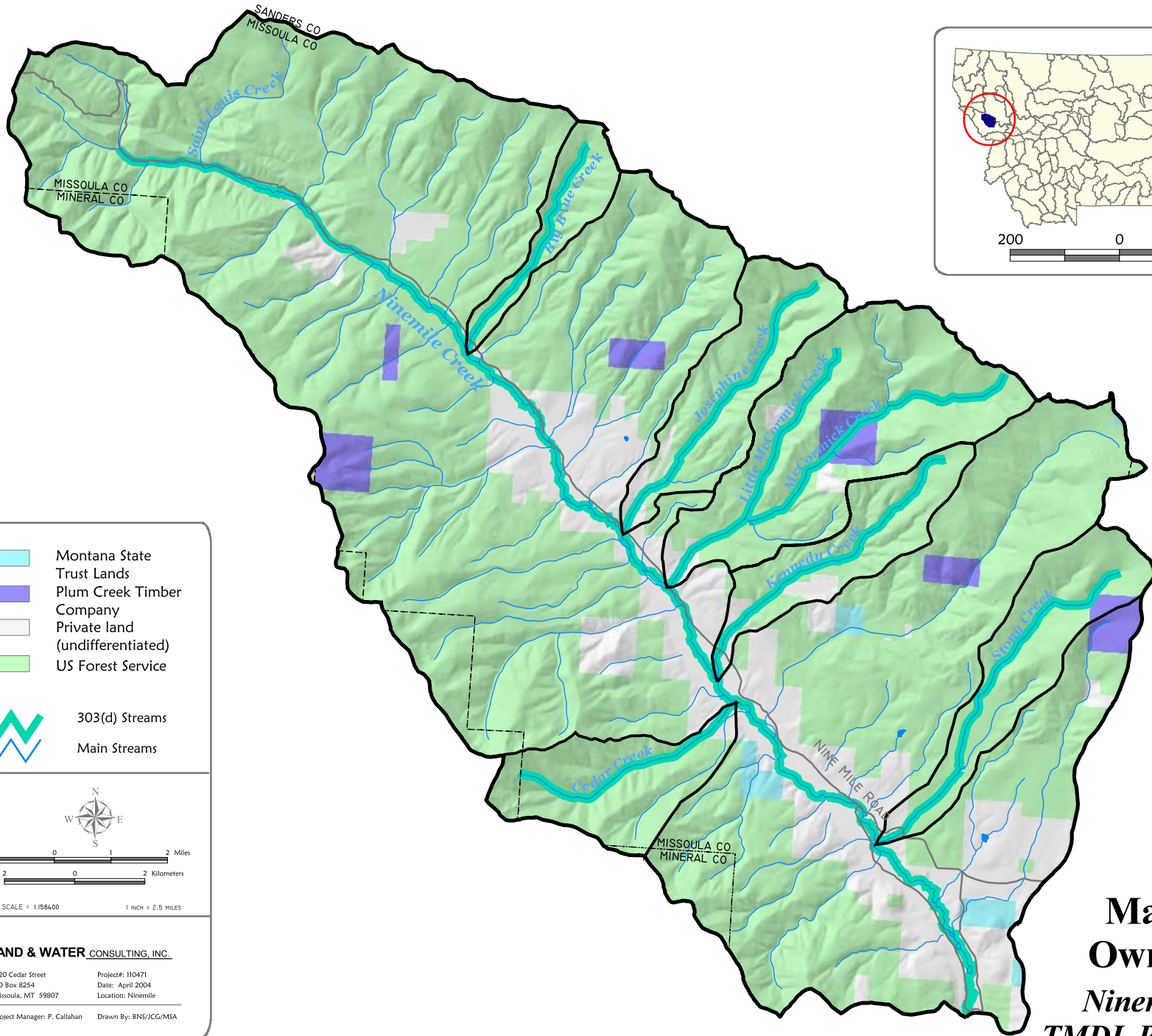
SCALE = 1:158,600 1 INCH = 2.5 MILES

LAND & WATER CONSULTING, INC.

1120 Cedar Street Project#: 110471
 PO Box 8254 Date: April 2004
 Missoula, MT 59807 Location: Ninemile

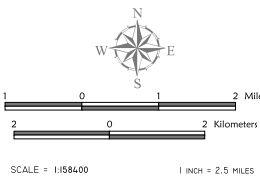
Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

Map 2-5.
Major Land
Resource Areas
Ninemile Creek
TMDL Planning Area



- Montana State Trust Lands
- Plum Creek Timber Company
- Private land (undifferentiated)
- US Forest Service

- 303(d) Streams
- Main Streams

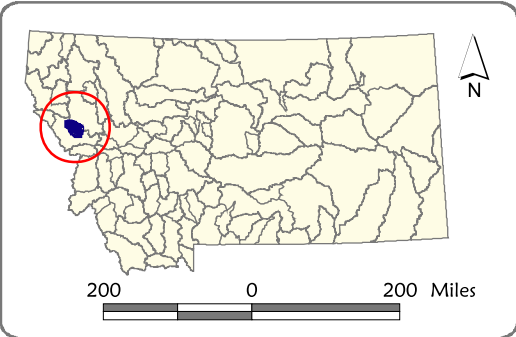
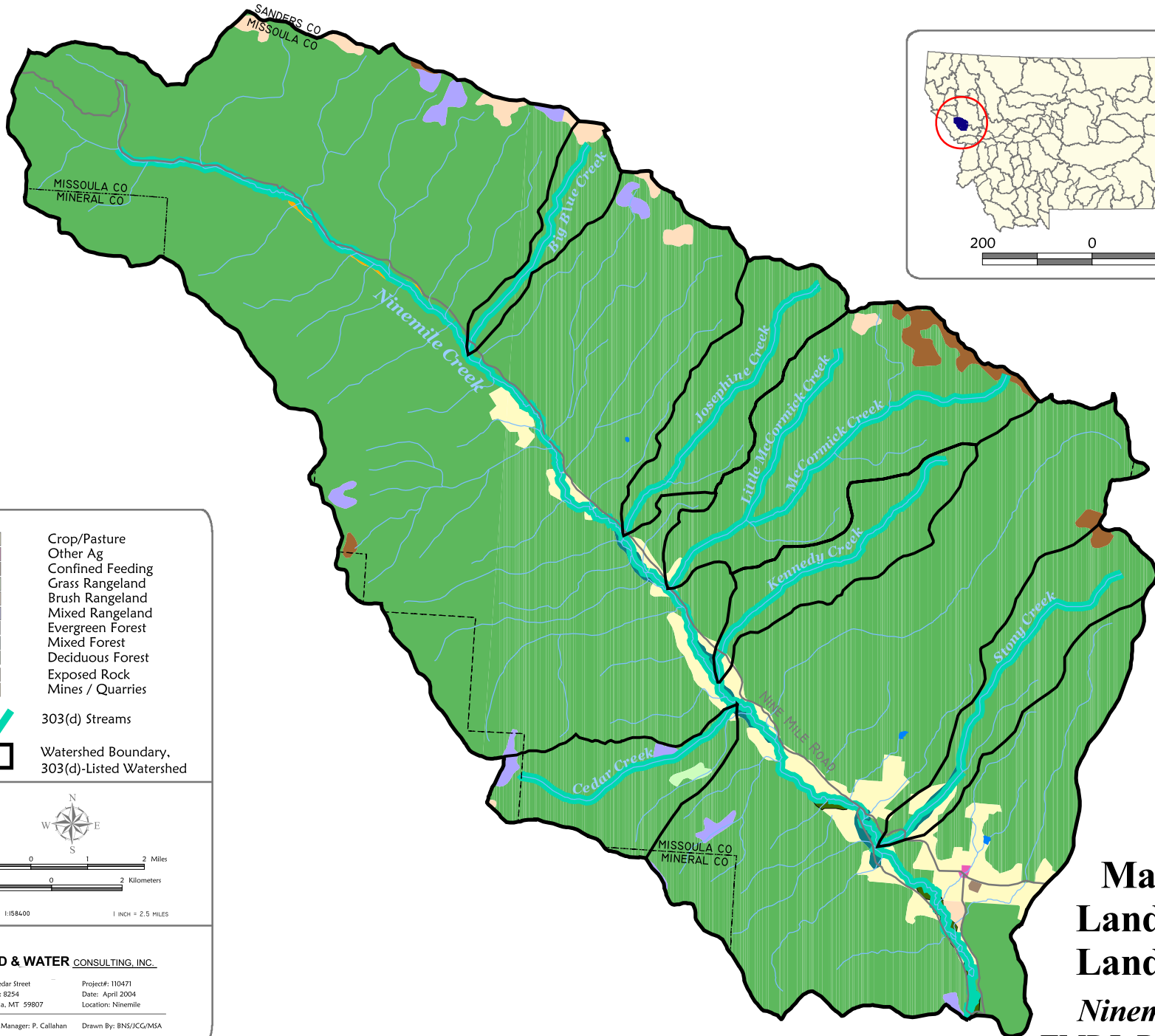


LAND & WATER CONSULTING, INC.
 1120 Cedar Street
 PO Box 8254
 Missoula, MT 59807

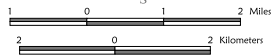
Project#: 110471
 Date: April 2004
 Location: Ninemile

Project Manager: P. Callahan
 Drawn By: BNS/JCG/MSA

Map 2-6.
Ownership
Ninemile Creek
TMDL Planning Area



- Crop/Pasture
- Other Ag
- Confined Feeding
- Grass Rangeland
- Brush Rangeland
- Mixed Rangeland
- Evergreen Forest
- Mixed Forest
- Deciduous Forest
- Exposed Rock
- Mines / Quarries
- 303(d) Streams
- Watershed Boundary, 303(d)-Listed Watershed



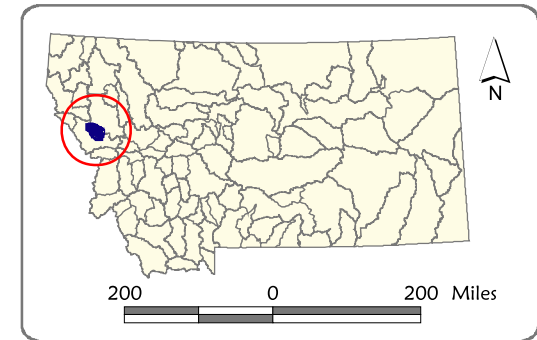
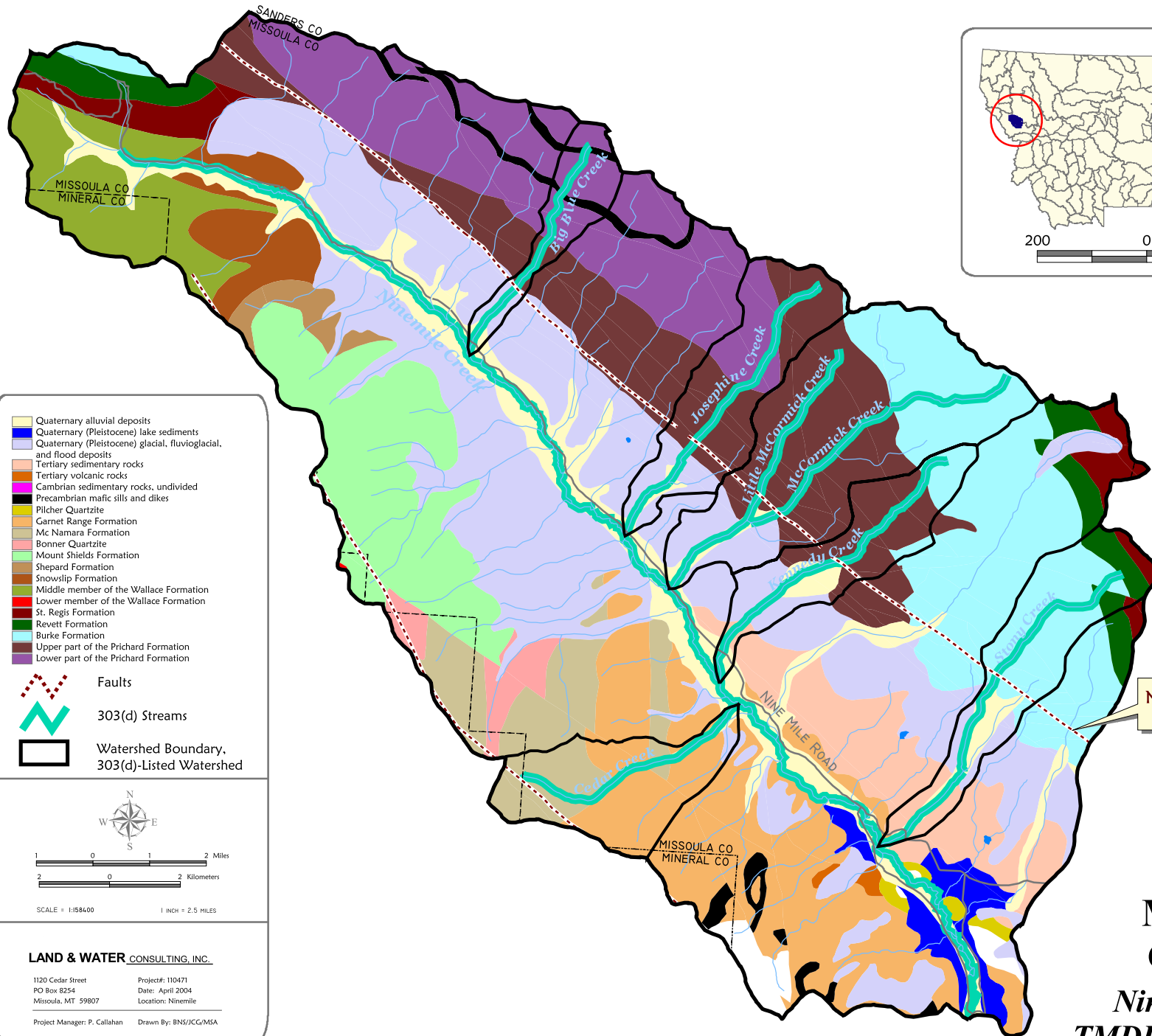
SCALE = 1:158400 1 INCH = 2.5 MILES

LAND & WATER CONSULTING, INC.

1120 Cedar Street Project#: 110471
 PO Box 8254 Date: April 2004
 Missoula, MT 59807 Location: Ninemile

Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

Map 2-7.
**Land Use &
 Land Cover**
*Ninemile Creek
 TMDL Planning Area*



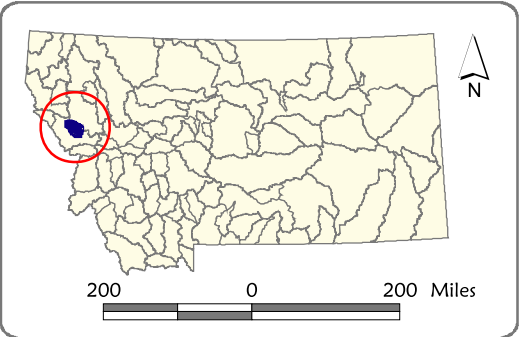
	Quaternary alluvial deposits
	Quaternary (Pleistocene) lake sediments and flood deposits
	Quaternary (Pleistocene) glacial, fluvioglacial, and flood deposits
	Tertiary sedimentary rocks
	Tertiary volcanic rocks
	Cambrian sedimentary rocks, undivided
	Precambrian mafic sills and dikes
	Pilcher Quartzite
	Garnet Range Formation
	Mc Namara Formation
	Bonner Quartzite
	Mount Shields Formation
	Shepard Formation
	Snowslip Formation
	Middle member of the Wallace Formation
	Lower member of the Wallace Formation
	St. Regis Formation
	Revelt Formation
	Burke Formation
	Upper part of the Prichard Formation
	Lower part of the Prichard Formation

	Faults
	303(d) Streams
	Watershed Boundary, 303(d)-Listed Watershed

	N W E S
	1 0 1 2 Miles
	2 0 2 Kilometers
SCALE = 1:358400	1 INCH = 2.5 MILES

Map 2-8.
Geology
Ninemile Creek
TMDL Planning Area

LAND & WATER CONSULTING, INC.
 1120 Cedar Street
 PO Box 8254
 Missoula, MT 59807
 Project#: 110471
 Date: April 2004
 Location: Ninemile
 Project Manager: P. Callahan
 Drawn By: BNS/JCG/MSA



- Mineral Location
- Prospect
- Placer
- Surface
- Underground
- Surface / Underground
- Priority Mine Reclamation Sites

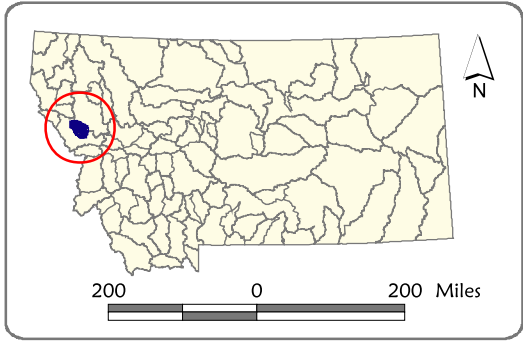
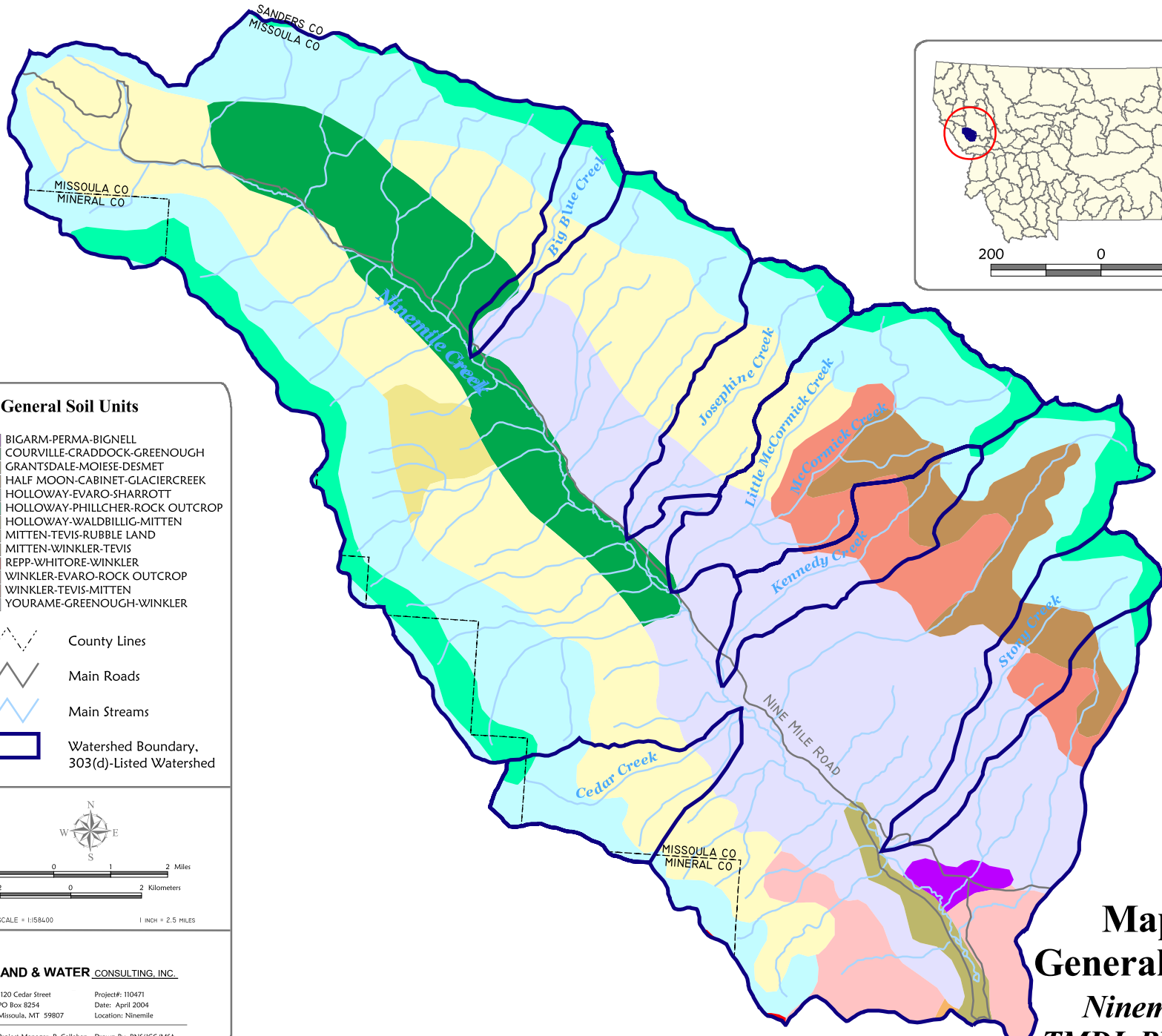
- 303(d) Streams
- Watershed Boundary, 303(d)-Listed Watershed

SCALE = 1:358400 1 INCH = 2.5 MILES

LAND & WATER CONSULTING, INC.
 1120 Cedar Street Project#: 110471
 PO Box 8254 Date: April 2004
 Missoula, MT 59807 Location: Ninemile

Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

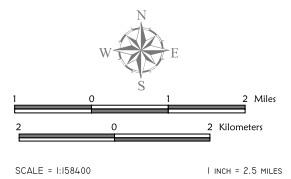
Map 2-9.
Mines & Prospects
Ninemile Creek
TMDL Planning Area



General Soil Units

- BIGARM-PERMA-BIGNELL
- COURVILLE-CRADDOCK-GREENOUGH
- GRANTSDALE-MOIESE-DESMET
- HALF MOON-CABINET-GLACIERCREEK
- HOLLOWAY-EVARO-SHARROTT
- HOLLOWAY-PHILLCHER-ROCK OUTCROP
- HOLLOWAY-WALDBILLIG-MITTEN
- MITTEN-TEVIS-RUBBLE LAND
- MITTEN-WINKLER-TEVIS
- REPP-WHITORE-WINKLER
- WINKLER-EVARO-ROCK OUTCROP
- WINKLER-TEVIS-MITTEN
- YOURAME-GREENOUGH-WINKLER

- County Lines
- Main Roads
- Main Streams
- Watershed Boundary, 303(d)-Listed Watershed

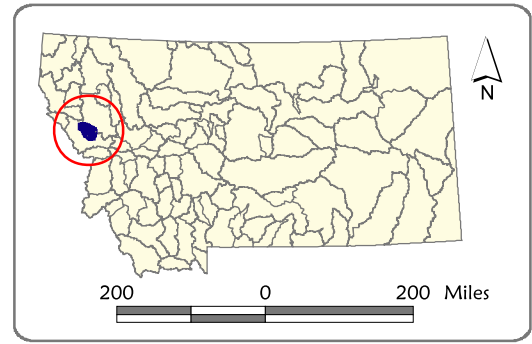
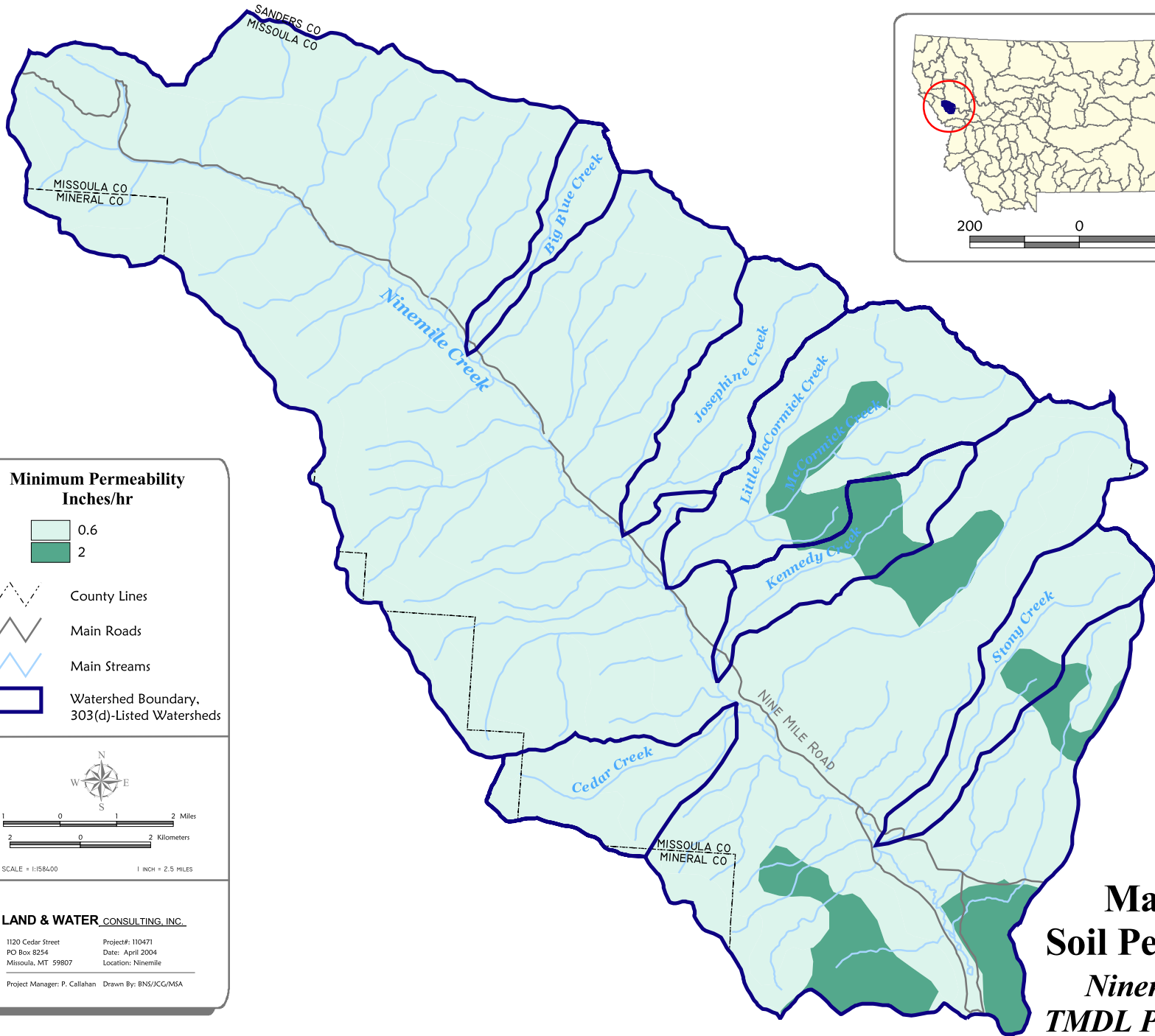


LAND & WATER CONSULTING, INC.

1120 Cedar Street Project#: 110471
 PO Box 8294 Date: April 2004
 Missoula, MT 59807 Location: Ninemile

Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

Map 2-10.
General Soil Units
Ninemile Creek
TMDL Planning Area



Minimum Permeability Inches/hr

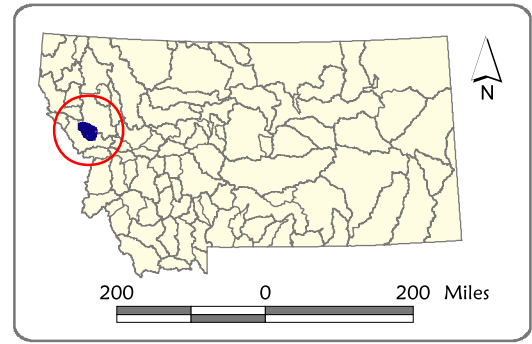
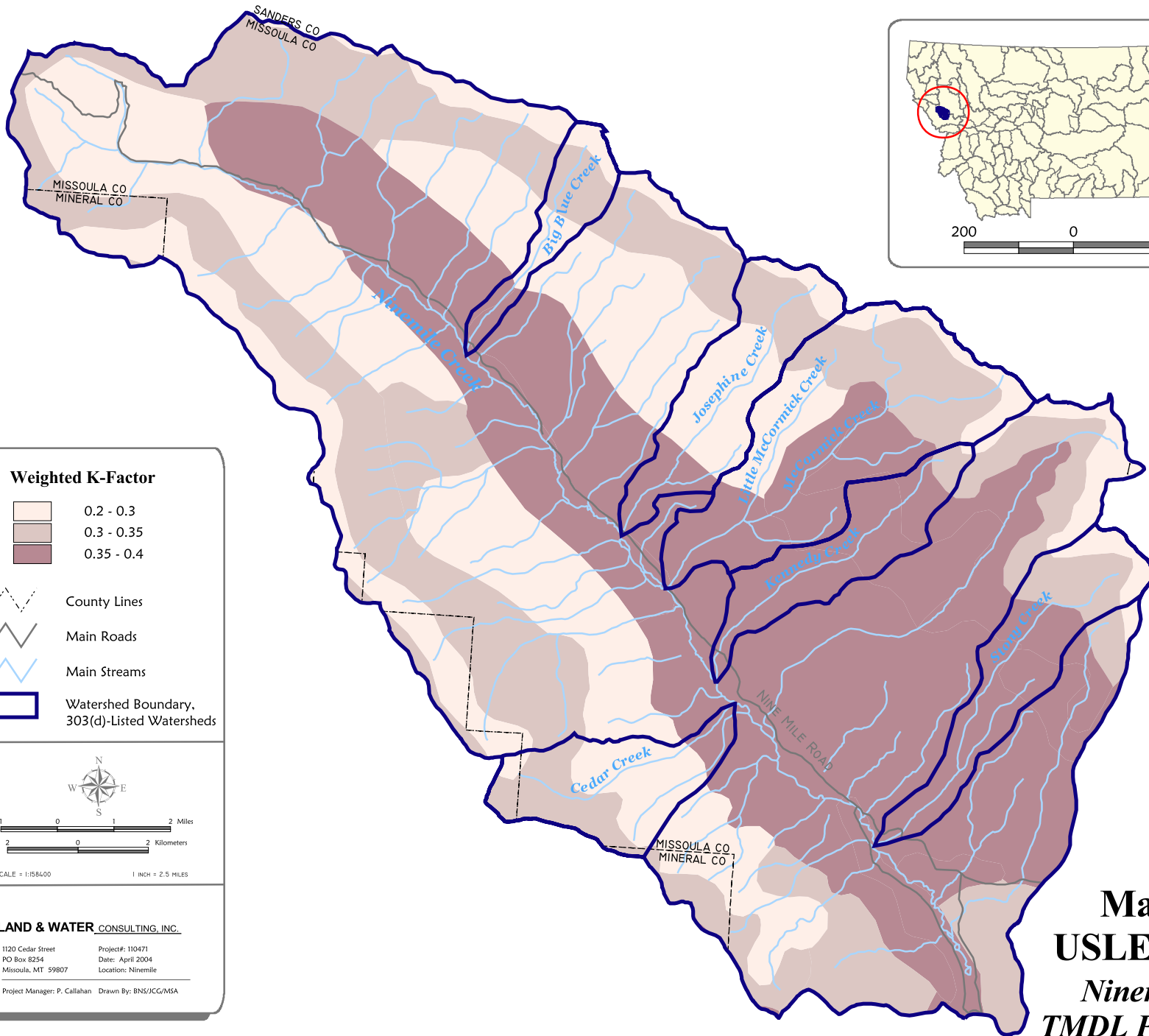
	0.6
	2

County Lines
 Main Roads
 Main Streams
 Watershed Boundary, 303(d)-Listed Watersheds

1 0 1 2 Miles
 2 0 2 Kilometers
 SCALE = 1:58,600 1 INCH = 2.5 MILES

LAND & WATER CONSULTING, INC.
 1120 Cedar Street Project#: 110471
 PO Box 8254 Date: April 2004
 Missoula, MT 59807 Location: Ninemile
 Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

Map 2-11.
Soil Permeability
Ninemile Creek
TMDL Planning Area



Weighted K-Factor

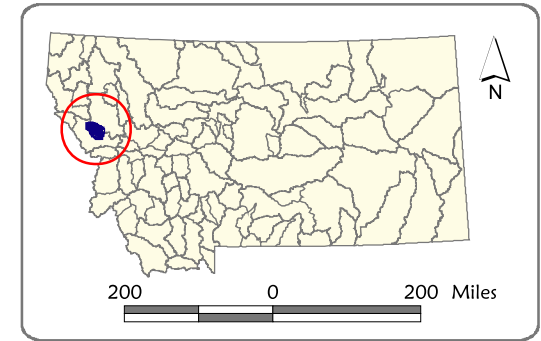
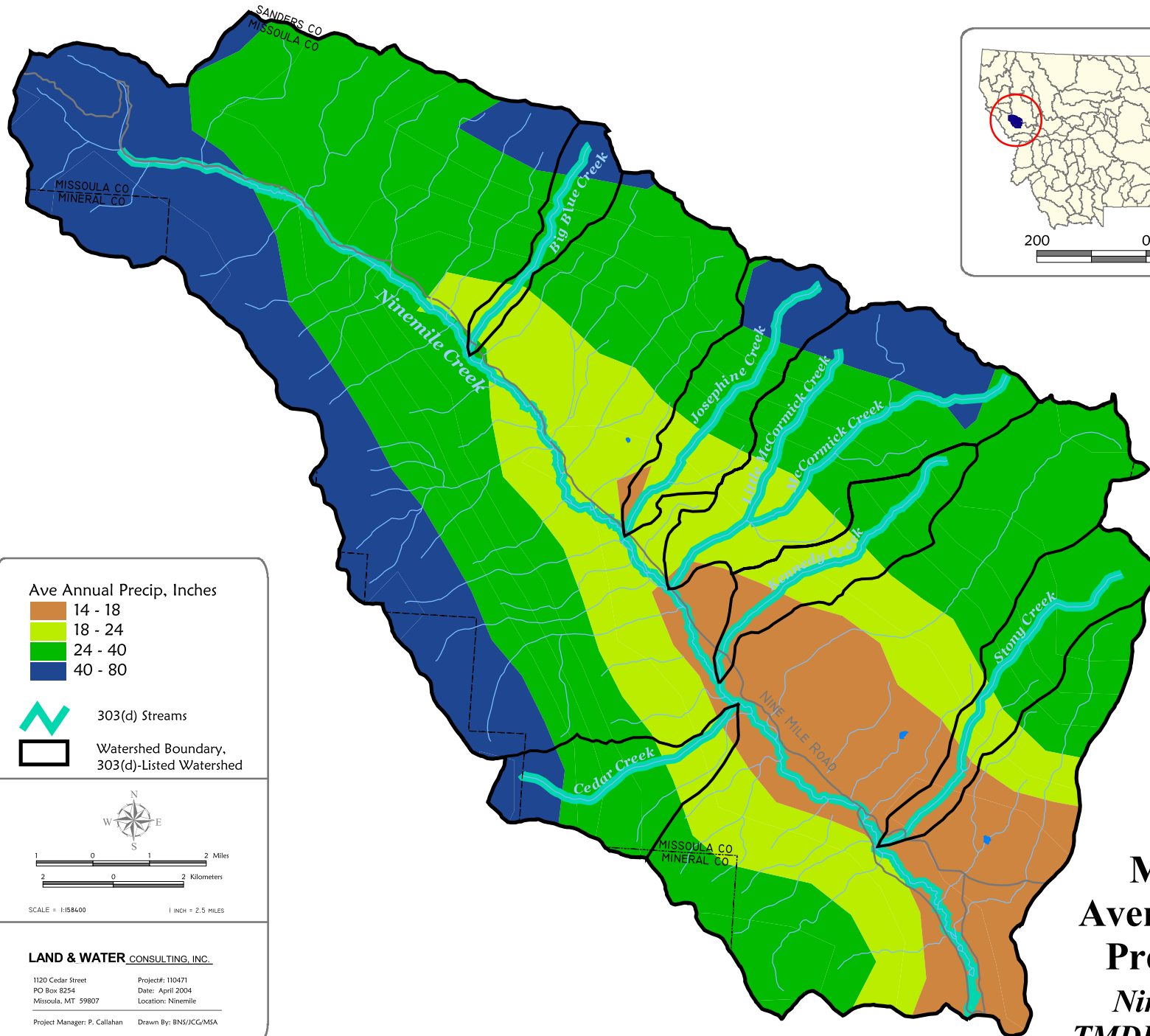
	0.2 - 0.3
	0.3 - 0.35
	0.35 - 0.4

County Lines
 Main Roads
 Main Streams
 Watershed Boundary, 303(d)-Listed Watersheds

1 0 1 2 Miles
 2 0 2 Kilometers
 SCALE = 1:158,400 1 INCH = 2.5 MILES

LAND & WATER CONSULTING, INC.
 1120 Cedar Street Project#: 110471
 PO Box 8254 Date: April 2004
 Missoula, MT 59807 Location: Ninemile
 Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

Map 2-12.
USLE K-Factor
Ninemile Creek
TMDL Planning Area

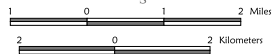


Ave Annual Precip. Inches

- 14 - 18
- 18 - 24
- 24 - 40
- 40 - 80

303(d) Streams

Watershed Boundary,
303(d)-Listed Watershed



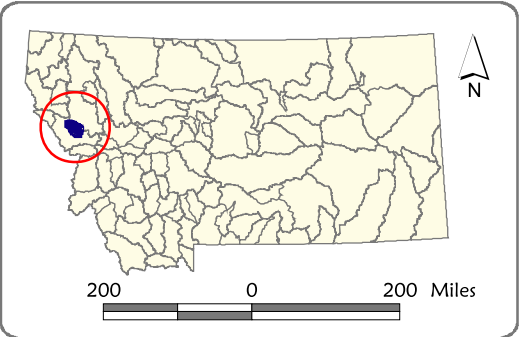
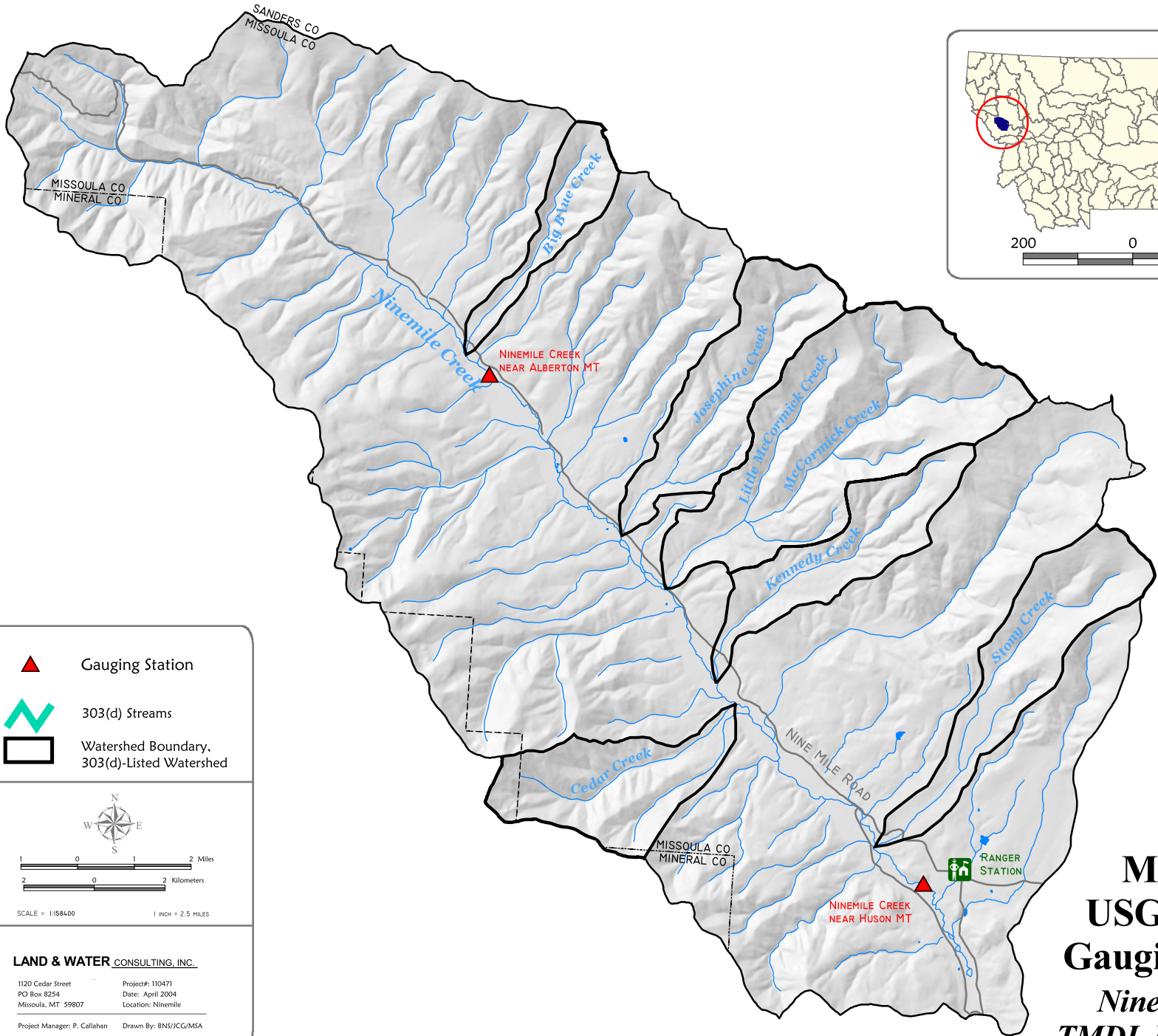
SCALE = 1:1158400 1 INCH = 2.5 MILES




LAND & WATER CONSULTING, INC.




1120 Cedar Street Project#: 110471
PO Box 8254 Date: April 2004
Missoula, MT 59807 Location: Ninemile

Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

Map 2-13.
Average Annual
Precipitation
Ninemile Creek
TMDL Planning Area

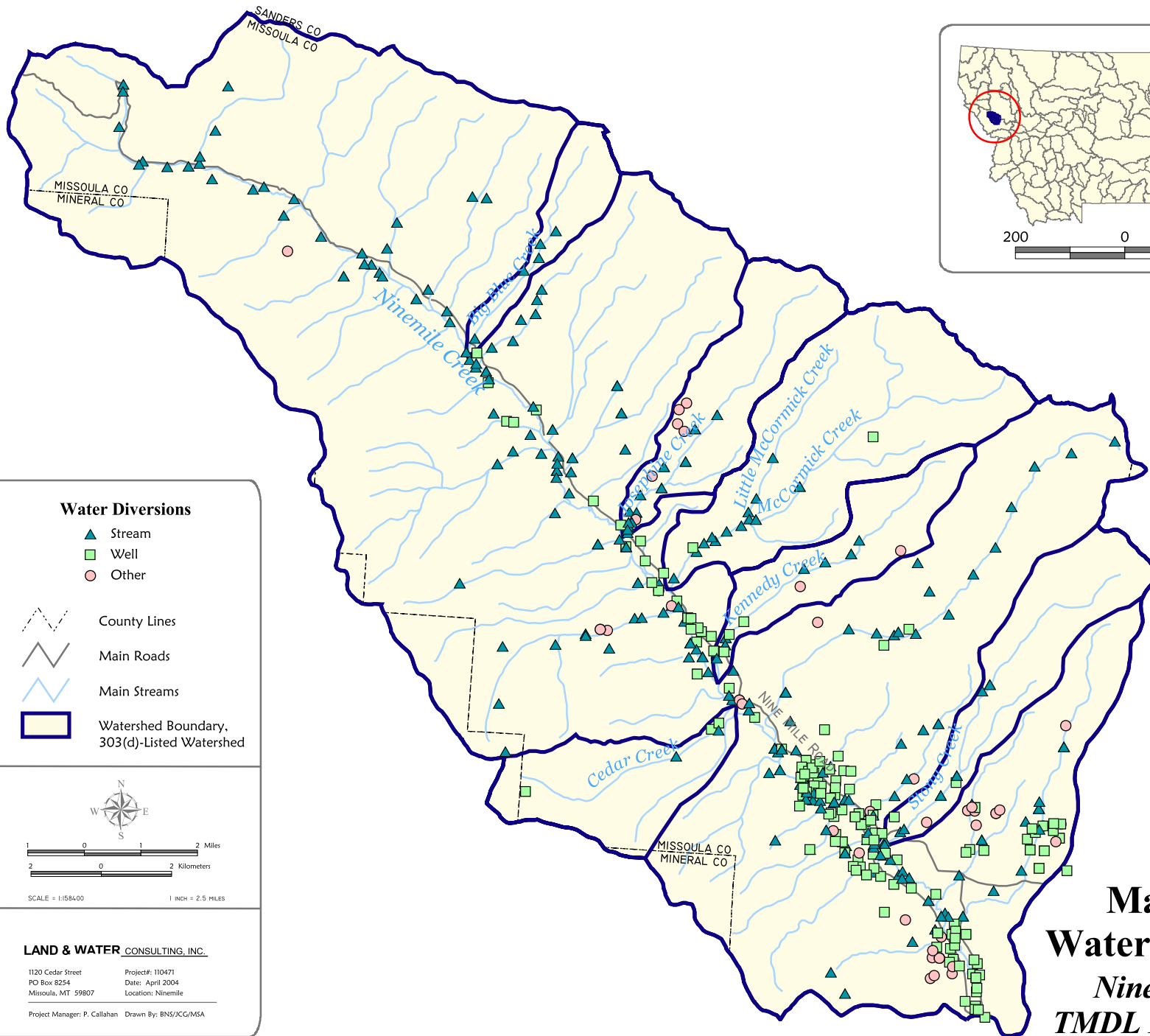


 Gauging Station
 303(d) Streams
 Watershed Boundary, 303(d)-Listed Watershed




 SCALE = 1:158400 1 INCH = 2.5 MILES

LAND & WATER CONSULTING, INC.
 1120 Cedar Street Project#: 110471
 PO Box 8254 Date: April 2004
 Missoula, MT 59807 Location: Ninemile
 Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

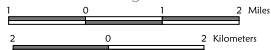
Map 2-14.
USGS Stream
Gauging Stations
Ninemile Creek
TMDL Planning Area



Water Diversions

- ▲ Stream
- Well
- Other

- County Lines
- Main Roads
- Main Streams
- ▭ Watershed Boundary, 303(d)-Listed Watershed



SCALE = 1:158400 1 INCH = 2.5 MILES

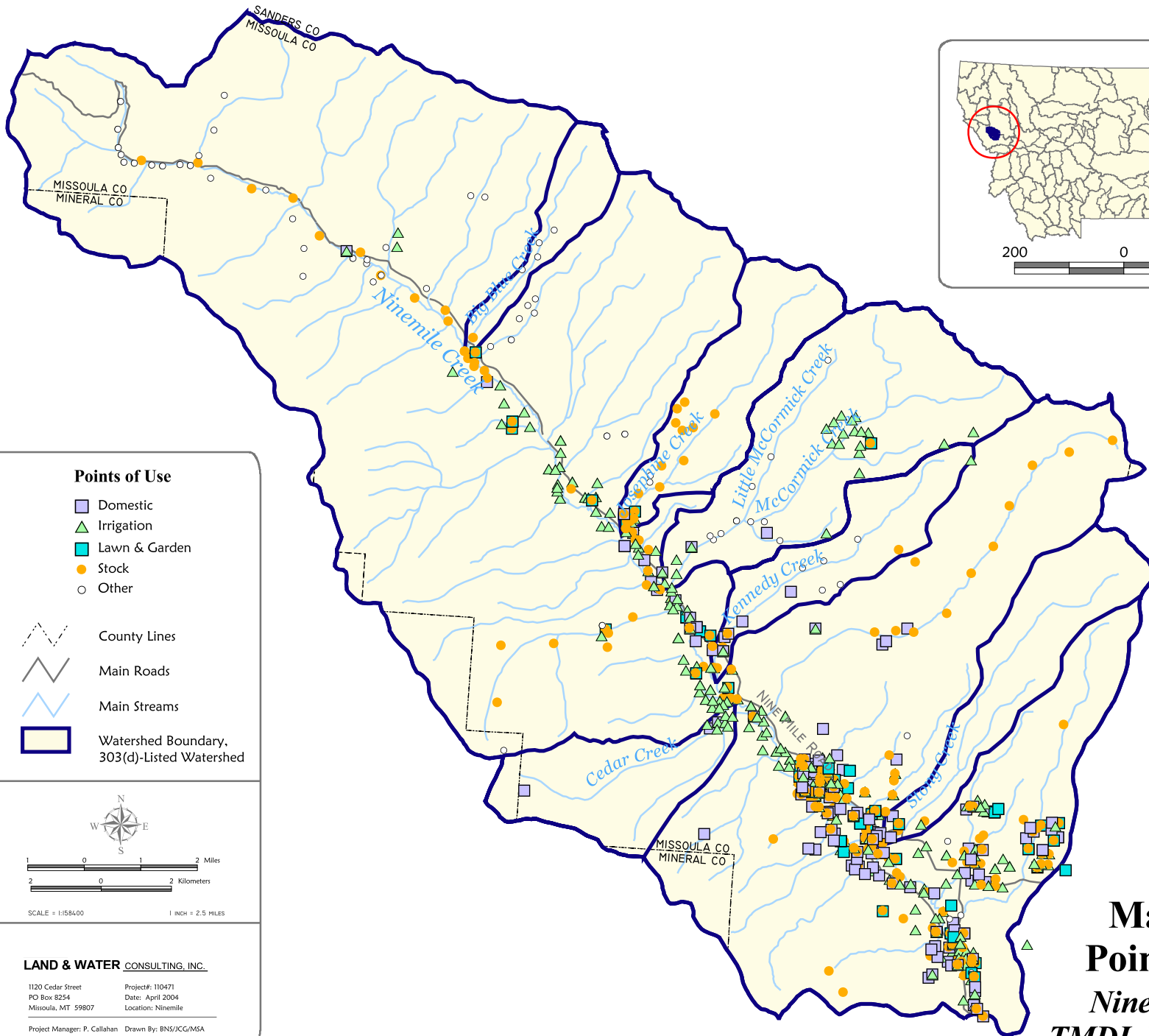
LAND & WATER CONSULTING, INC.

1120 Cedar Street
 PO Box 8254
 Missoula, MT 59807






Project#: 110471
 Date: April 2004
 Location: Ninemile





Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

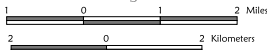
Map 2-15.
Water Diversions
Ninemile Creek
TMDL Planning Area



Points of Use

-  Domestic
-  Irrigation
-  Lawn & Garden
-  Stock
-  Other

-  County Lines
-  Main Roads
-  Main Streams
-  Watershed Boundary, 303(d)-Listed Watershed



SCALE = 1:158400 1 INCH = 2.5 MILES

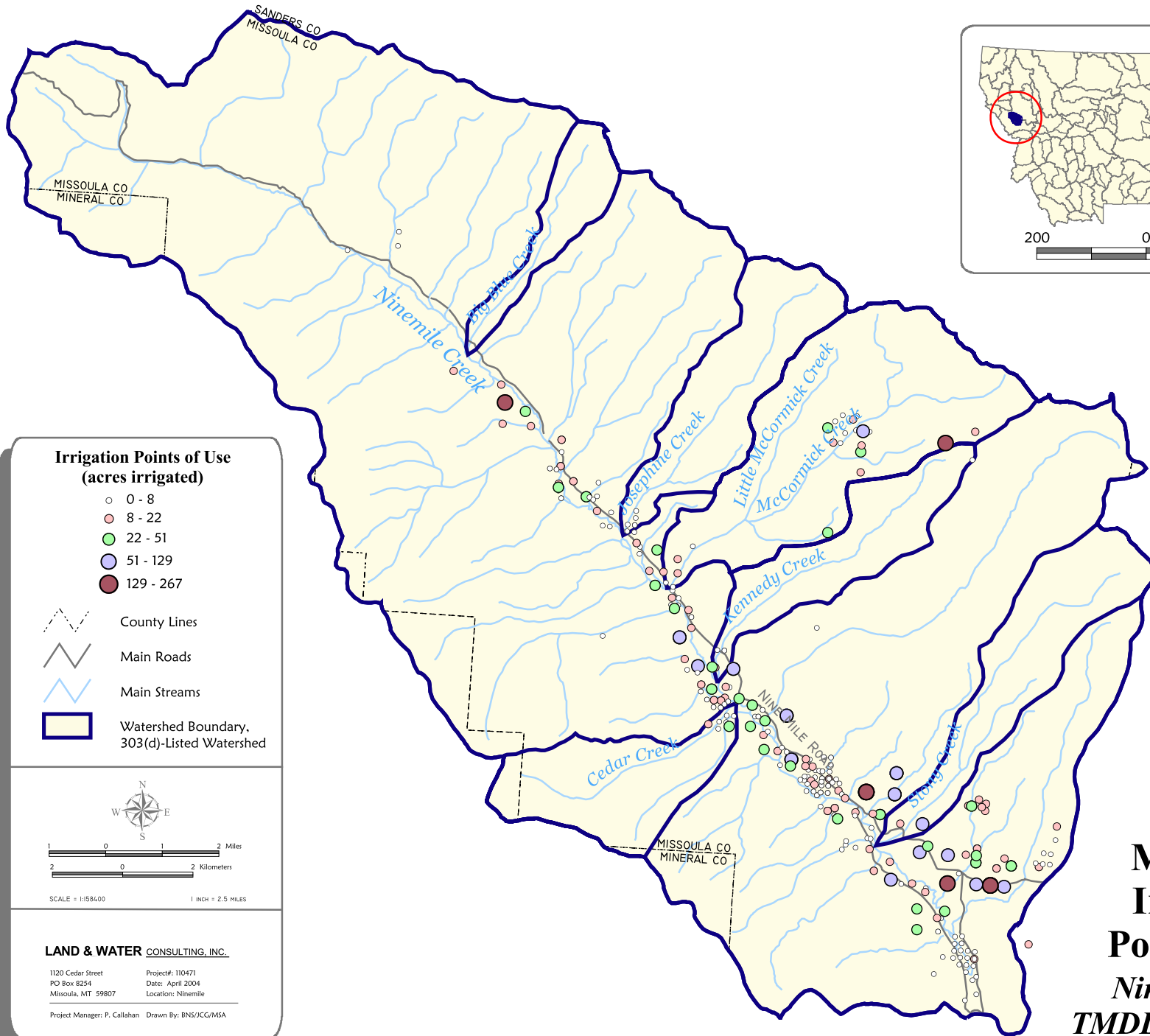
LAND & WATER CONSULTING, INC.

1120 Cedar Street
PO Box 8254
Missoula, MT 59807

Project#: 110471
Date: April 2004
Location: Ninemile

Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

Map 2-16.
Points of Use
Ninemile Creek
TMDL Planning Area

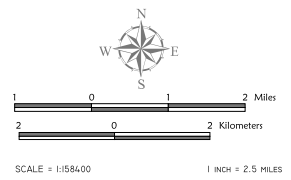


Map 2-17.
Irrigation
Points of Use
Ninemile Creek
TMDL Planning Area

**Irrigation Points of Use
(acres irrigated)**

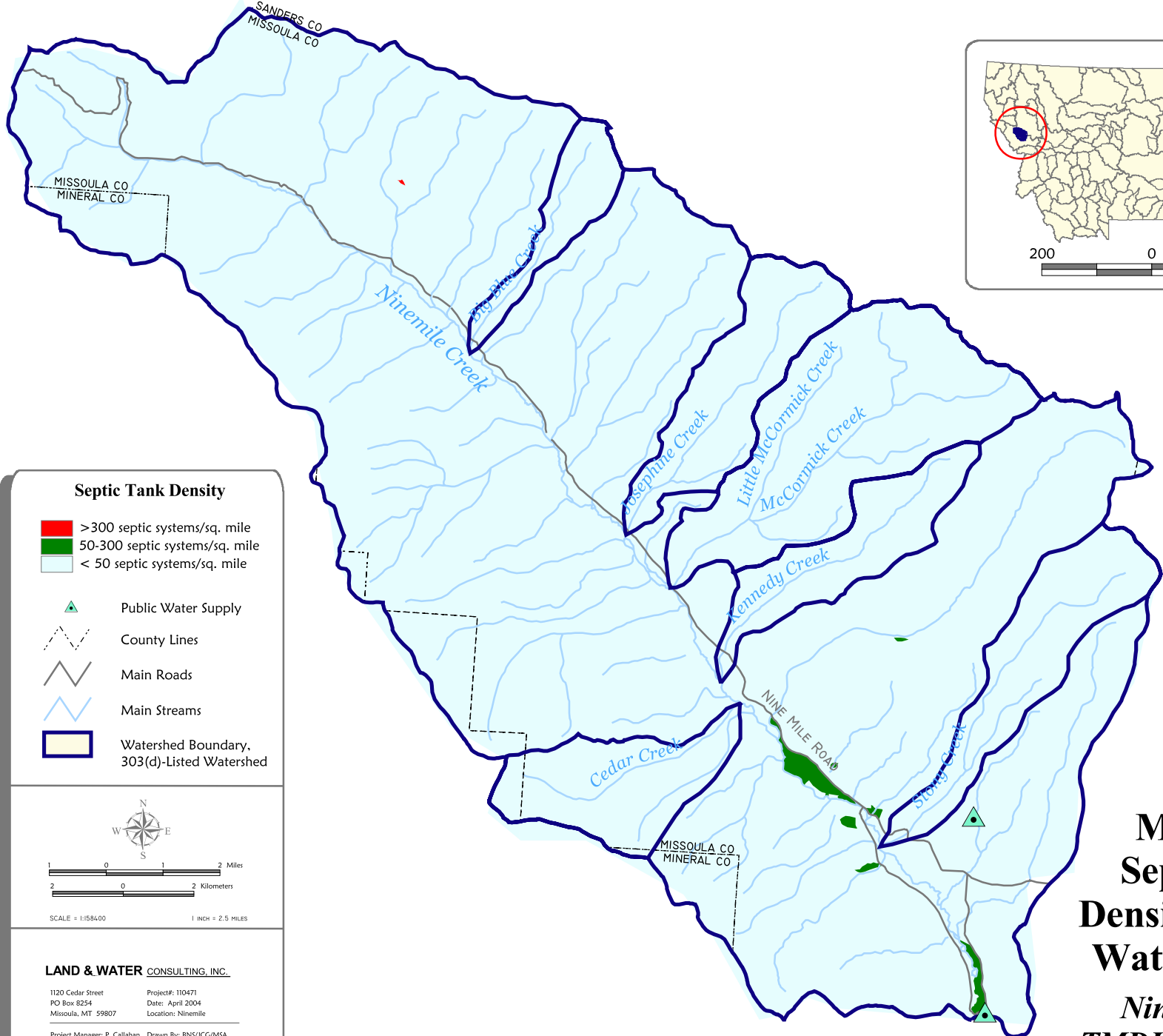
- 0 - 8
- 8 - 22
- 22 - 51
- 51 - 129
- 129 - 267

- County Lines
- Main Roads
- Main Streams
- Watershed Boundary, 303(d)-Listed Watershed



LAND & WATER CONSULTING, INC.

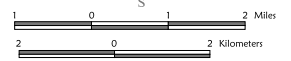
1120 Cedar Street
PO Box 8254
Missoula, MT 59807
Project#: 110471
Date: April 2004
Location: Ninemile
Project Manager: P. Callahan Drawn By: BNS/JCG/MSA



Septic Tank Density

- >300 septic systems/sq. mile
- 50-300 septic systems/sq. mile
- < 50 septic systems/sq. mile

- Public Water Supply
- County Lines
- Main Roads
- Main Streams
- Watershed Boundary, 303(d)-Listed Watershed

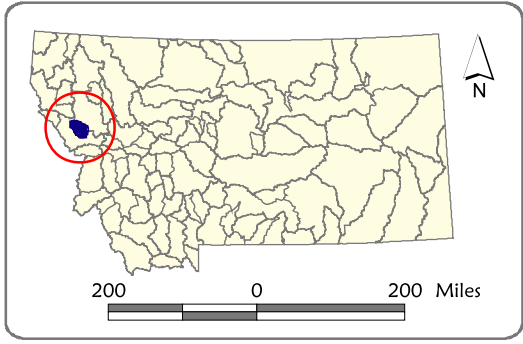
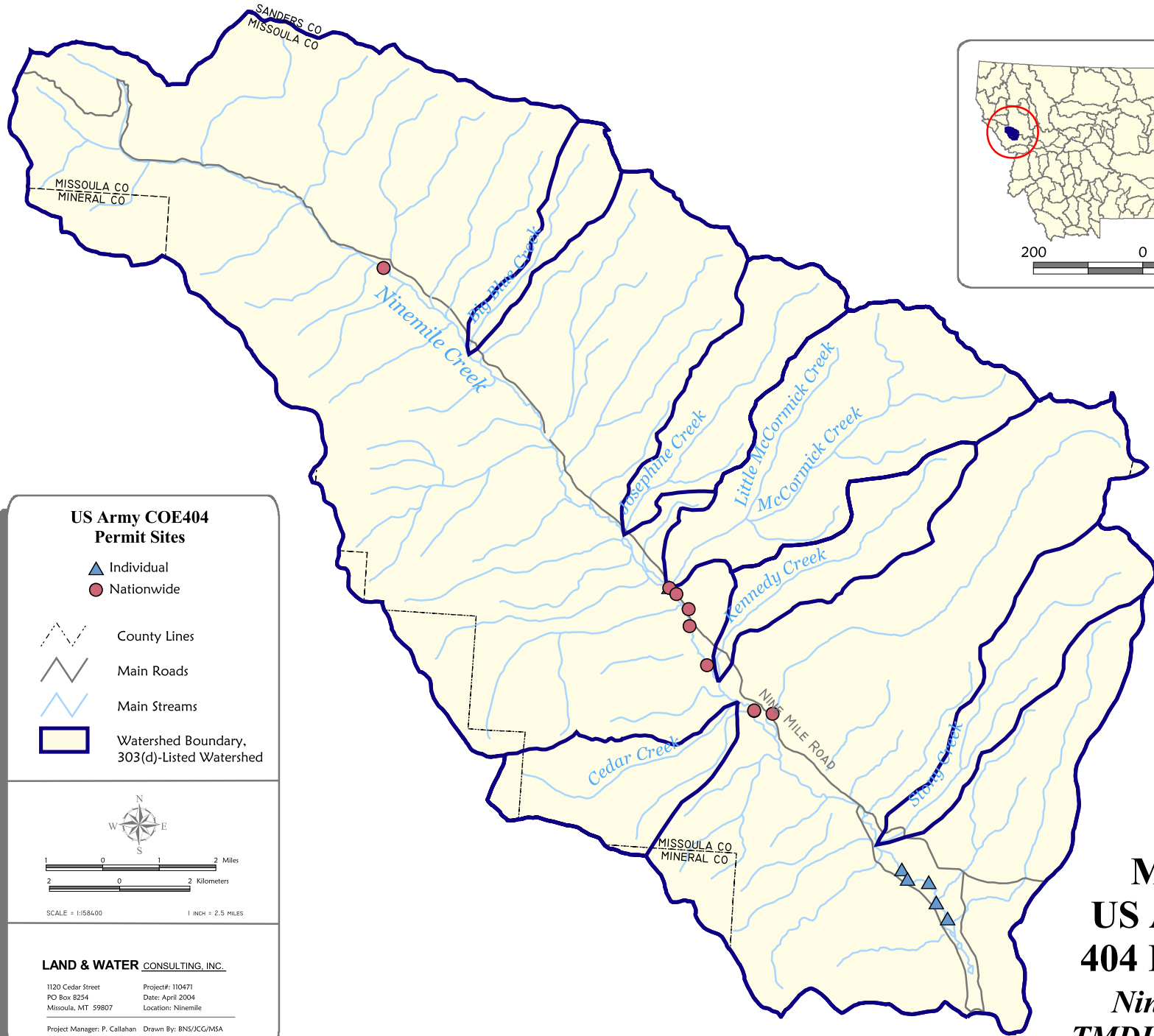


SCALE = 1:158400 1 INCH = 2.5 MILES

LAND & WATER CONSULTING, INC.

1120 Cedar Street Project#: 110471
 PO Box 8254 Date: April 2004
 Missoula, MT 59807 Location: Ninemile
 Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

Map 2-18.
Septic Tank
Density & Public
Water Supplies
Ninemile Creek
TMDL Planning Area



US Army COE404 Permit Sites

- ▲ Individual
- Nationwide

- County Lines
- Main Roads
- Main Streams
- Watershed Boundary, 303(d)-Listed Watershed

SCALE = 1:158400

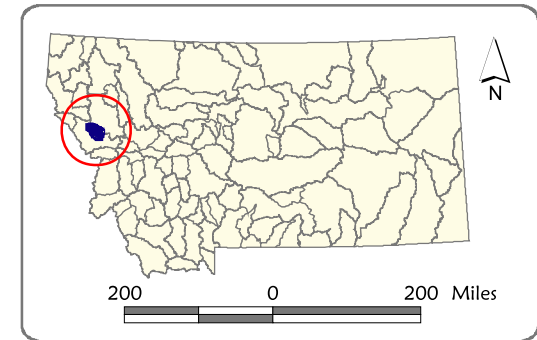
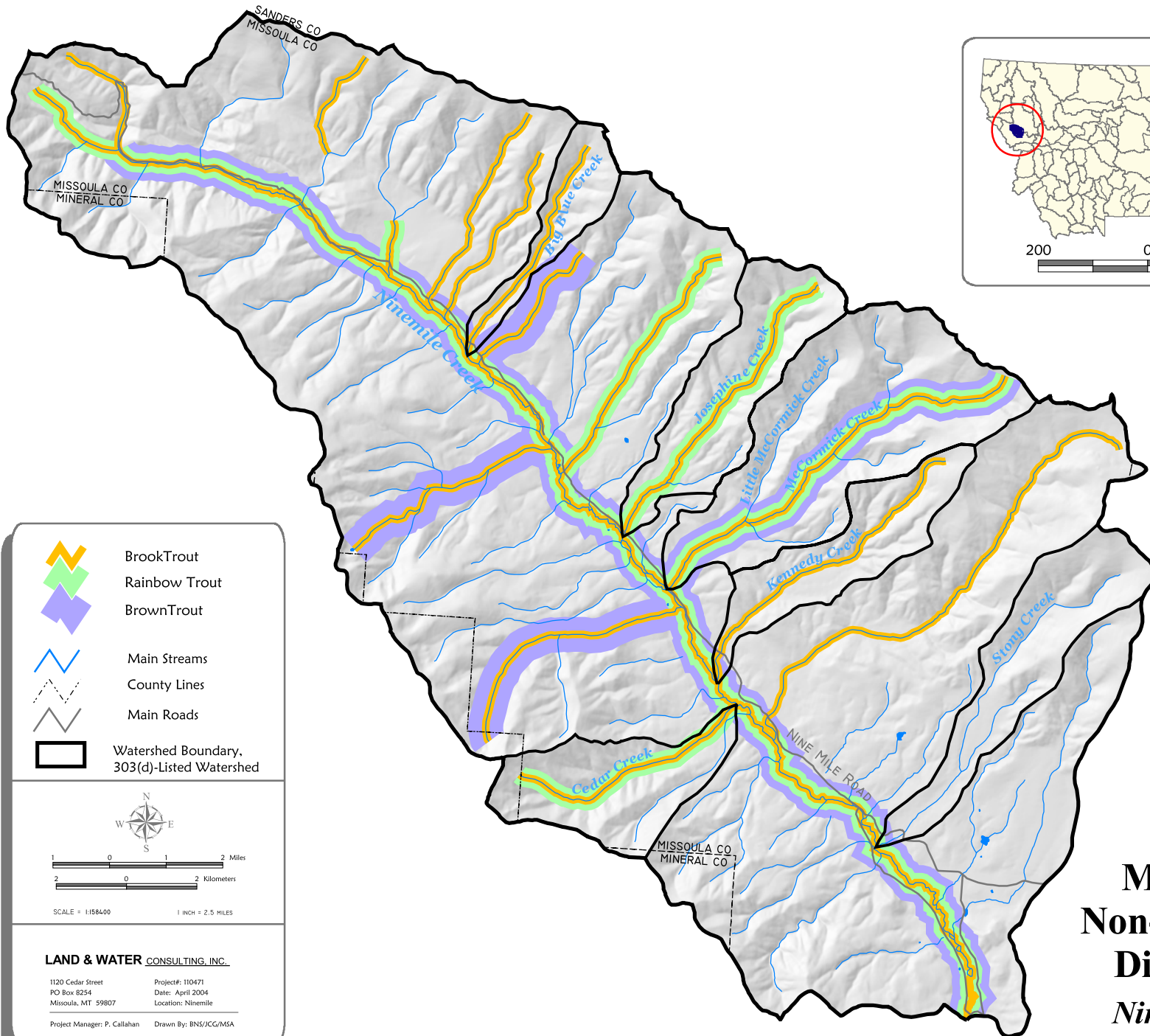
1 INCH = 2.5 MILES








LAND & WATER CONSULTING, INC.




1120 Cedar Street	Project#: 110471
PO Box 8254	Date: April 2004
Missoula, MT 59807	Location: Ninemile

Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

Map 2-19.
US Army COE
404 Permit Sites
Ninemile Creek
TMDL Planning Area



	Brook Trout
	Rainbow Trout
	Brown Trout
	Main Streams
	County Lines
	Main Roads
	Watershed Boundary, 303(d)-Listed Watershed

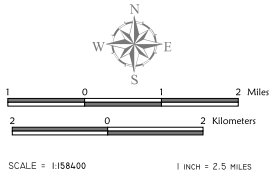
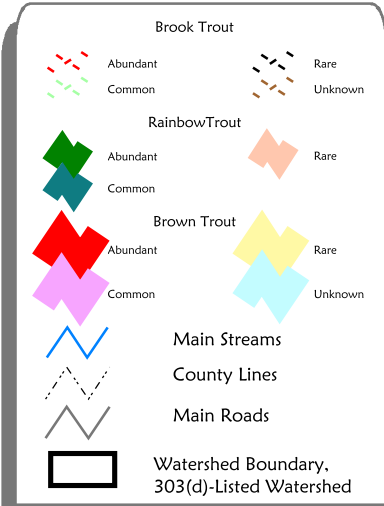
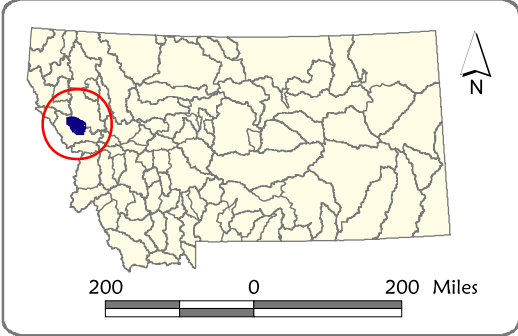
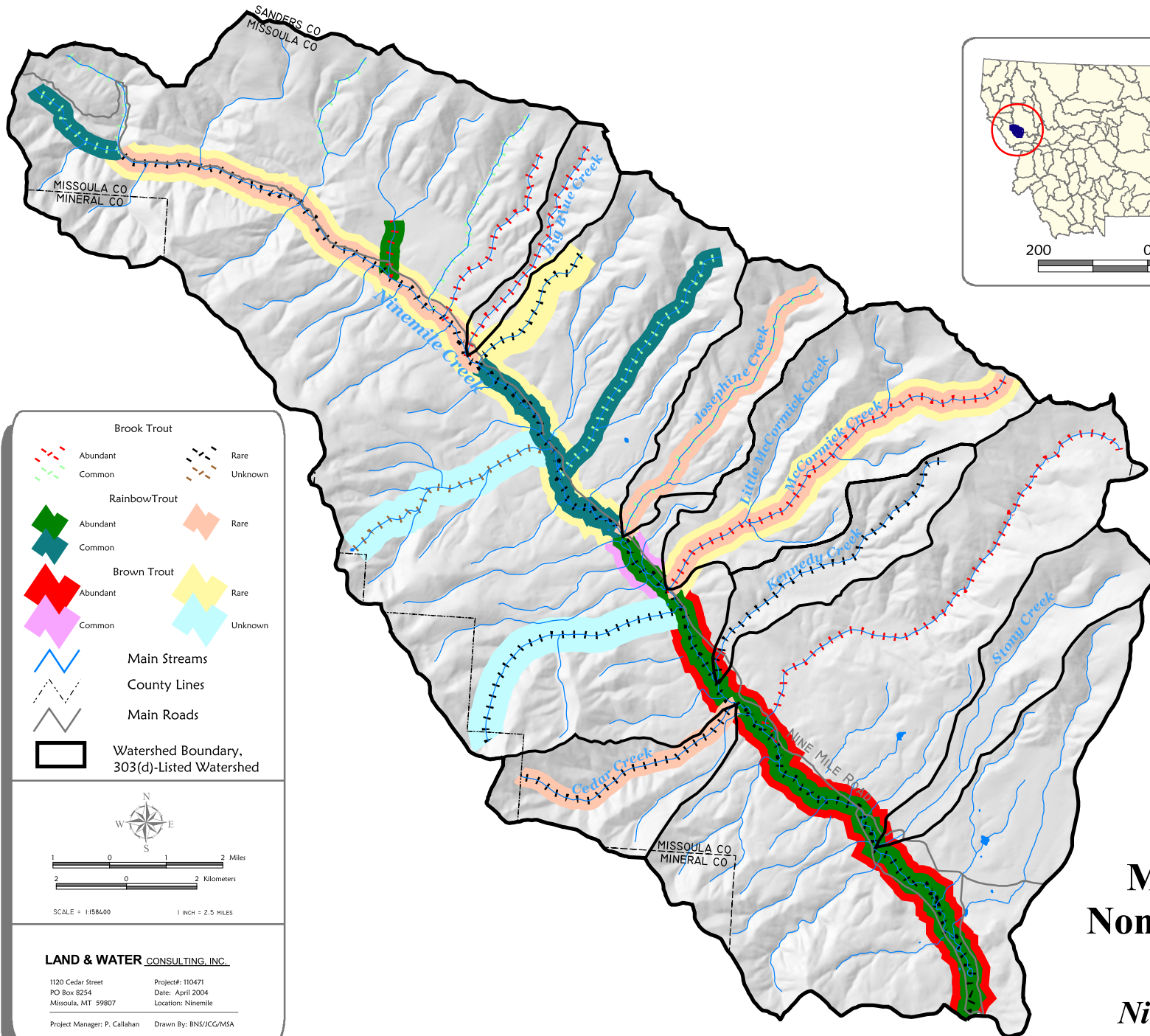

 
SCALE = 1:158400 1 INCH = 2.5 MILES

LAND & WATER CONSULTING, INC.

1120 Cedar Street	Project#: 110471
PO Box 8254	Date: April 2004
Missoula, MT 59807	Location: Ninemile

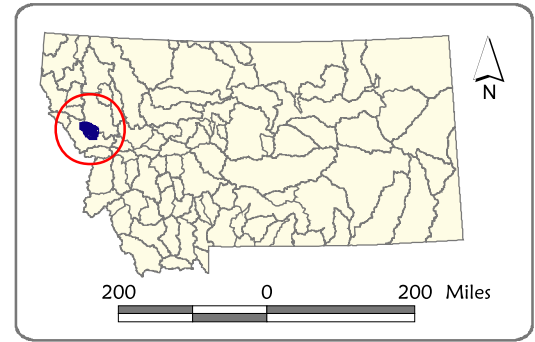
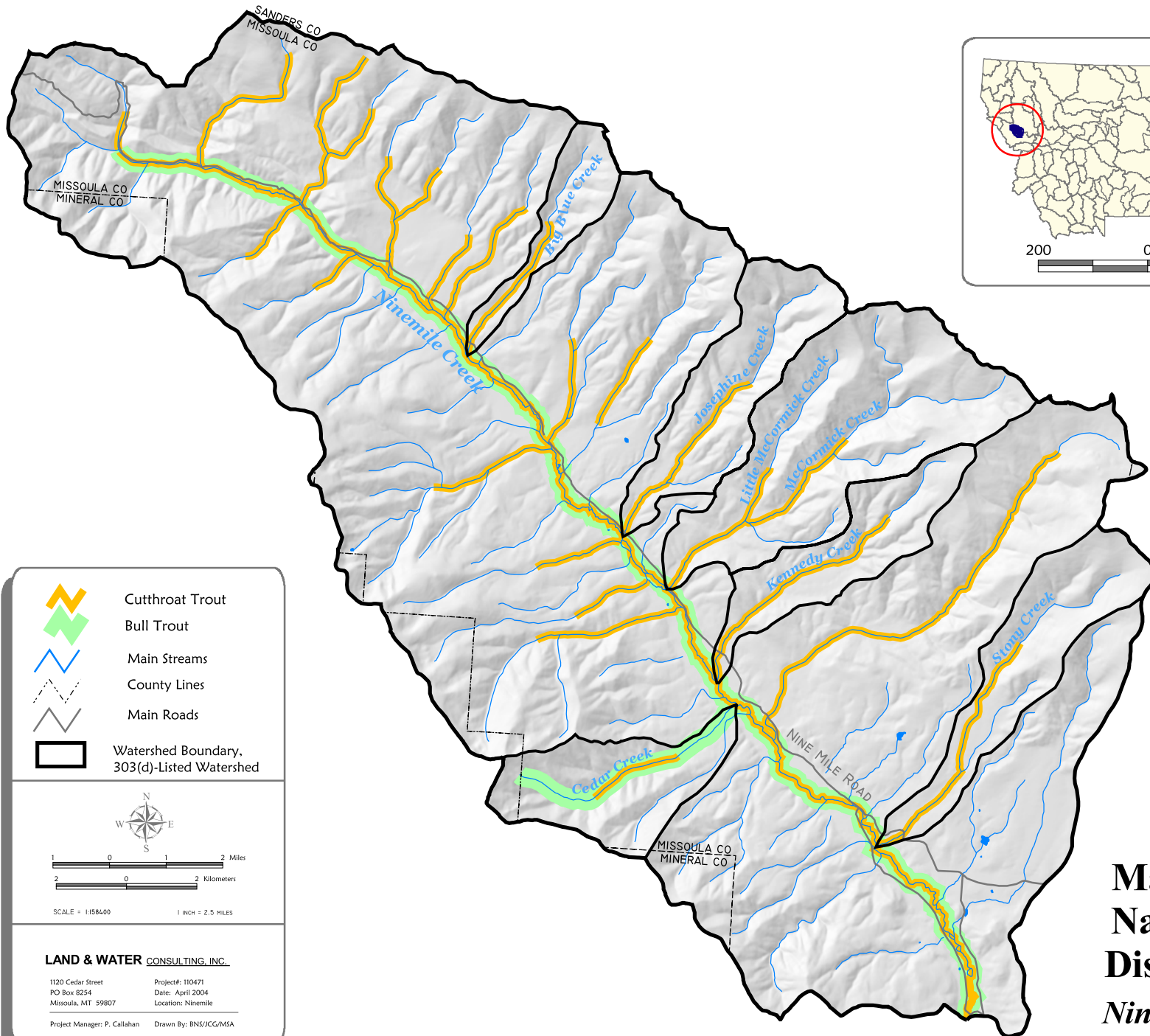
Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

Map 2-20a.
Non-Native Fish
Distribution
Ninemile Creek
TMDL Planning Area



LAND & WATER CONSULTING, INC.
 1120 Cedar Street
 PO Box 8254
 Missoula, MT 59807
 Project Manager: P. Callahan
 Project#: 110471
 Date: April 2004
 Location: Ninemile
 Drawn By: BNS/JCG/MSA

Map 2-20b.
Non-Native Fish
Density
Ninemile Creek
TMDL Planning Area



	Cutthroat Trout
	Bull Trout
	Main Streams
	County Lines
	Main Roads
	Watershed Boundary, 303(d)-Listed Watershed

1 INCH = 2.5 MILES

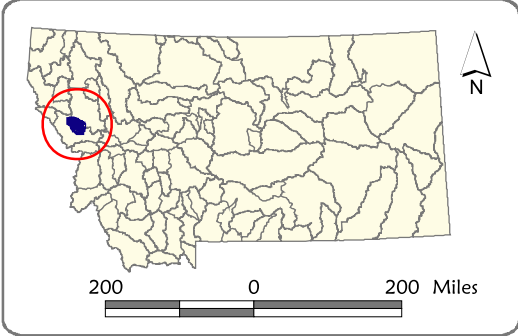
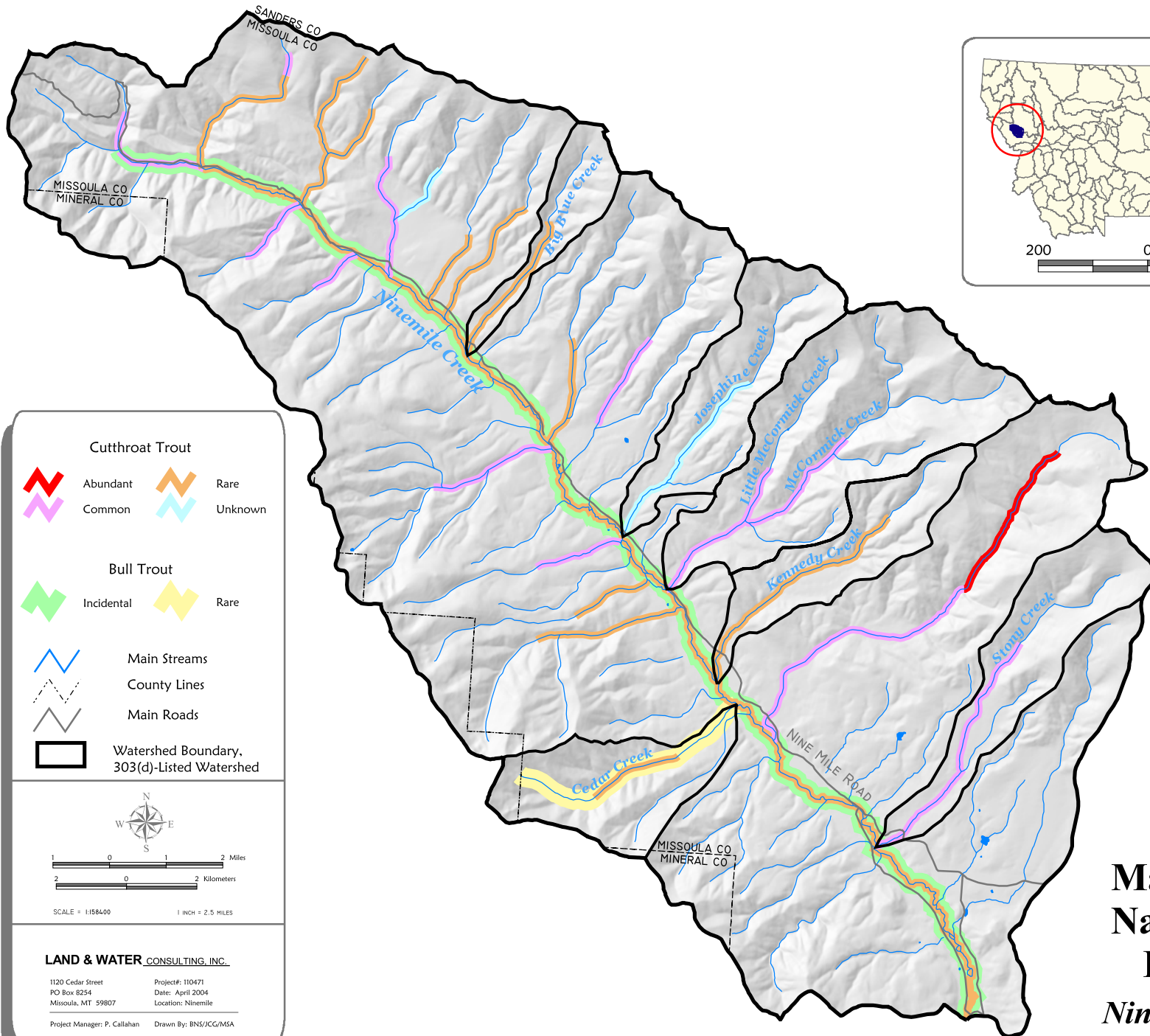
SCALE = 1:158400

LAND & WATER CONSULTING, INC.

1120 Cedar Street	Project#: 110471
PO Box 8254	Date: April 2004
Missoula, MT 59807	Location: Ninemile

Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

Map 2-21a.
Native Fish
Distribution
Ninemile Creek
TMDL Planning Area



Cutthroat Trout	
	Abundant
	Common
	Rare
	Unknown
Bull Trout	
	Incidental
	Rare
	Main Streams
	County Lines
	Main Roads
	Watershed Boundary, 303(d)-Listed Watershed

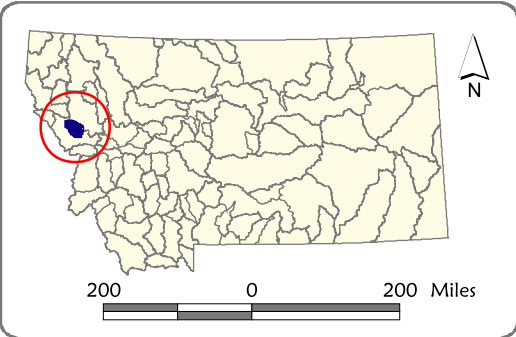
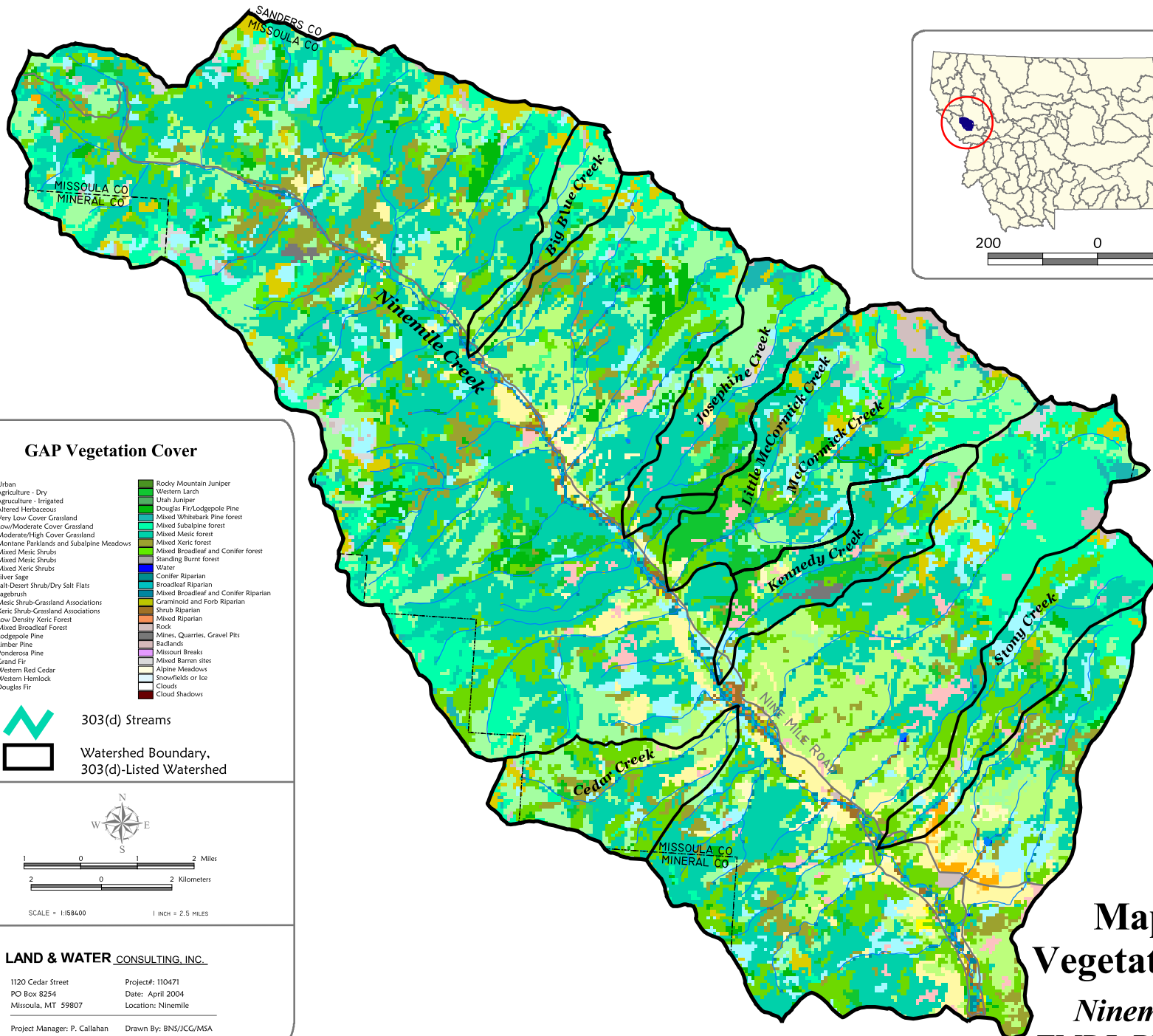
SCALE = 1:158400 1 INCH = 2.5 MILES

LAND & WATER CONSULTING, INC.

1120 Cedar Street	Project#: 110471
PO Box 8254	Date: April 2004
Missoula, MT 59807	Location: Ninemile

Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

Map 2-21b.
Native Fish
Density
Ninemile Creek
TMDL Planning Area



GAP Vegetation Cover

- | | |
|-----------------------------------------|--------------------------------------|
| Urban | Rocky Mountain Juniper |
| Agriculture - Dry | Western Larch |
| Agriculture - Irrigated | Utah Juniper |
| Altered Herbaceous | Douglas Fir/Lodgepole Pine |
| Very Low Cover Grassland | Mixed Whitebark Pine forest |
| Low/Moderate Cover Grassland | Mixed Subalpine forest |
| Moderate/High Cover Grassland | Mixed Mesic forest |
| Montana Parklands and Subalpine Meadows | Mixed Xeric forest |
| Mixed Mesic Shrubs | Mixed Broadleaf and Conifer forest |
| Mixed Mesic Shrubs | Standing Burnt forest |
| Mixed Xeric Shrubs | Water |
| Silver Sage | Conifer Riparian |
| Salt-Desert Shrub/Dry Salt Flats | Broadleaf Riparian |
| Sagebrush | Mixed Broadleaf and Conifer Riparian |
| Mesic Shrub-Grassland Associations | Graminoid and Forb Riparian |
| Xeric Shrub-Grassland Associations | Shrub Riparian |
| Low Density Xeric Forest | Mixed Riparian |
| Mixed Broadleaf Forest | Rock |
| Lodgepole Pine | Mines, Quarries, Gravel Pits |
| Limber Pine | Radlands |
| Ponderosa Pine | Missouri Breaks |
| Grand Fir | Mixed Barren sites |
| Western Red Cedar | Alpine Meadows |
| Western Hemlock | Snowfields or Ice |
| Douglas Fir | Clouds |
| | Cloud Shadows |



303(d) Streams



Watershed Boundary,
303(d)-Listed Watershed



1 0 2 Miles

2 0 2 Kilometers

SCALE = 1:158400

1 INCH = 2.5 MILES

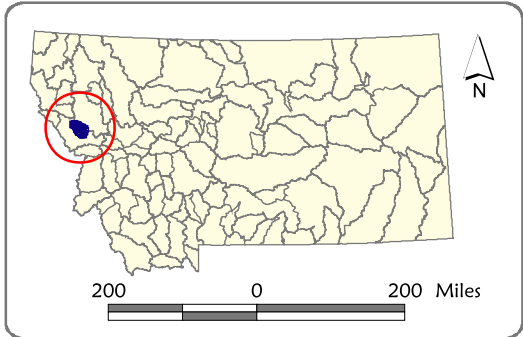
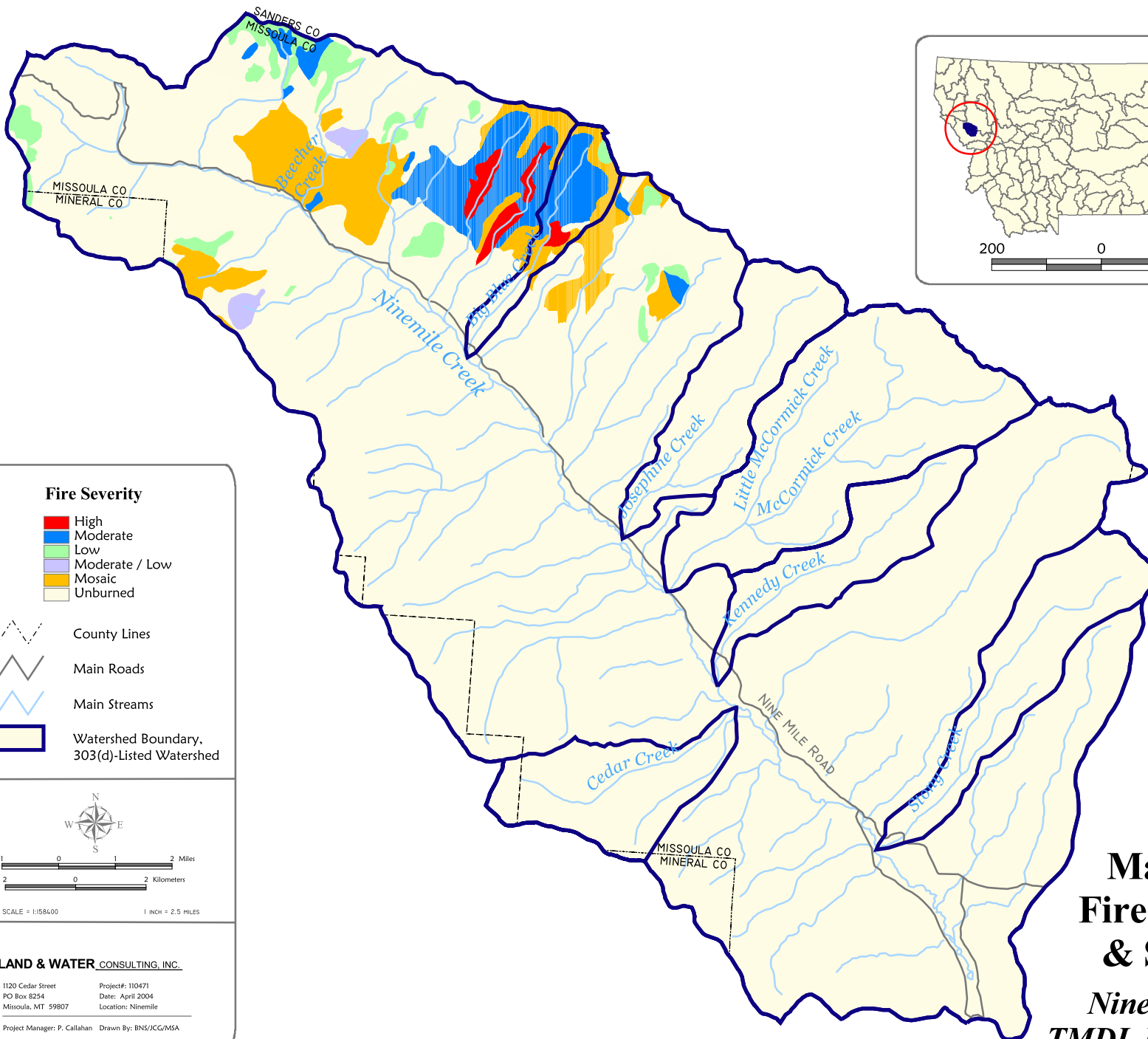
LAND & WATER CONSULTING, INC.

1120 Cedar Street
PO Box 8254
Missoula, MT 59807

Project#: 110471
Date: April 2004
Location: Ninemile

Project Manager: P. Callahan Drawn By: BNS/JCG/MSA

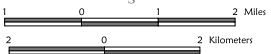
Map 2-22.
Vegetation Cover
Ninemile Creek
TMDL Planning Area



Fire Severity

- High
- Moderate
- Low
- Moderate / Low
- Mosaic
- Unburned

- County Lines
- Main Roads
- Main Streams
- Watershed Boundary, 303(d)-Listed Watershed

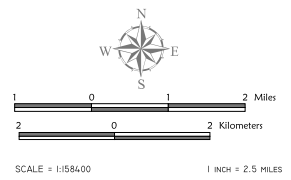
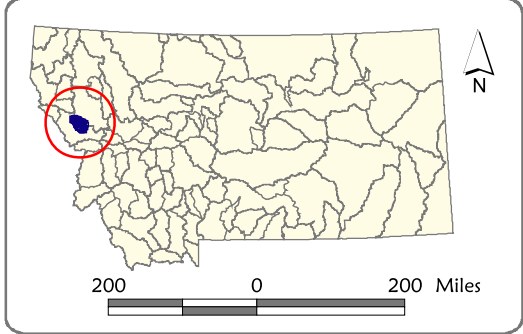
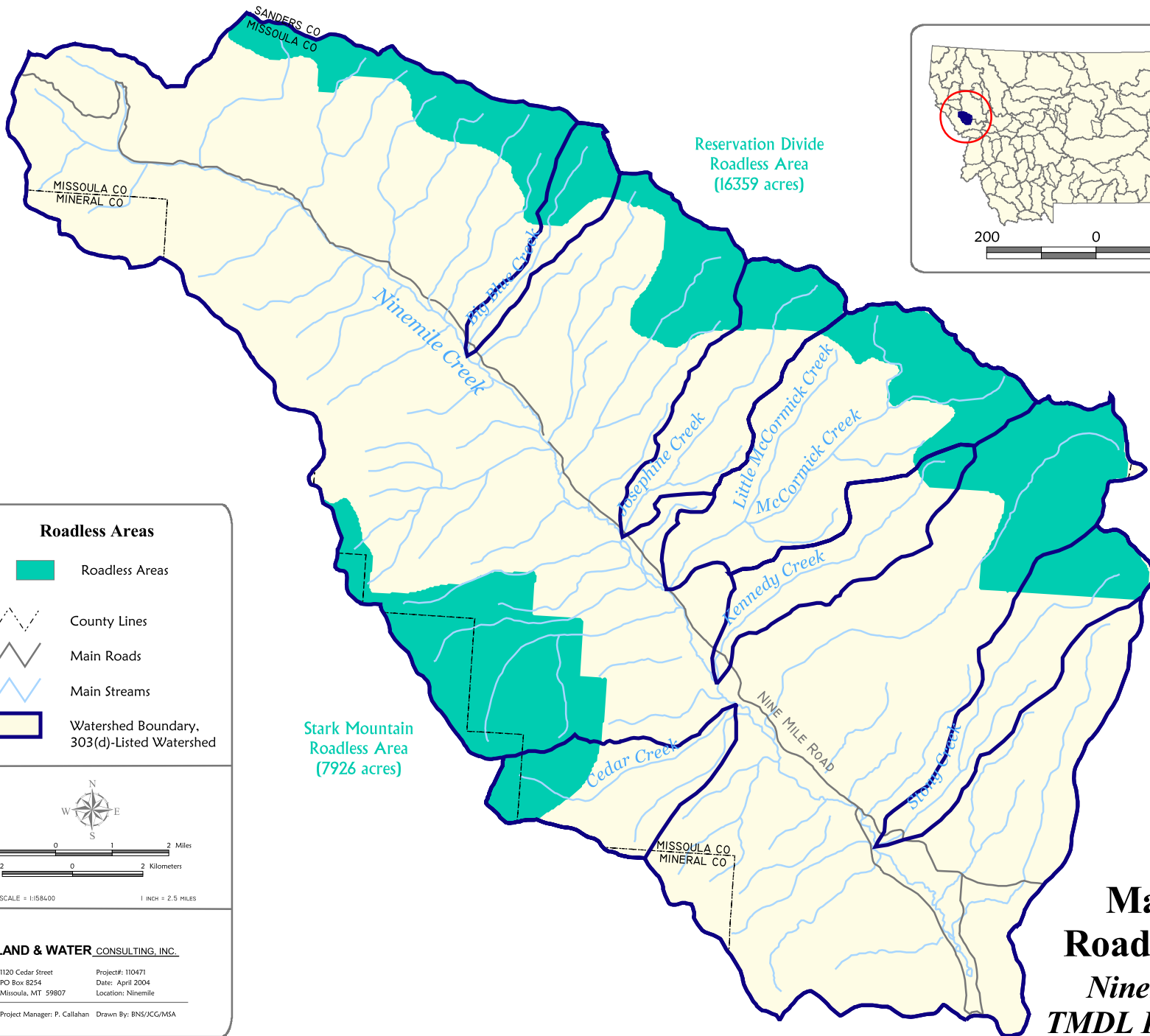


SCALE = 1:158,400 1 INCH = 2.5 MILES

LAND & WATER CONSULTING, INC.

1120 Cedar Street Project#: 110471
 PO Box 8254 Date: April 2004
 Missoula, MT 59807 Location: Ninemile
 Project Manager: P. Callahan Drawn By: BNS/JCG/WSA

Map 2-23.
Fire Location
& Severity
Ninemile Creek
TMDL Planning Area



LAND & WATER CONSULTING, INC.
 1120 Cedar Street Project#: 110471
 PO Box 8254 Date: April 2004
 Missoula, MT 59807 Location: Ninemile
 Project Manager: P. Callahan Drawn By: BNS/JCG/MSA