



Subregional Long-Term Wastewater Project

Water Quality Impact Analysis Report Volume II-Figures

SANTA ROSA SUBREGIONAL LONG-TERM WASTEWATER PROJECT

Prepared for

**City of Santa Rosa
and
U.S. Army Corps of Engineers**

July 1996

Prepared by

**MERRITT SMITH CONSULTING
Environmental Science and Communication**
3675 Mt. Diablo Blvd., #120 Lafayette, CA 94549

For

HARLAND BARTHOLOMEW & ASSOCIATES, INC.

WATER QUALITY IMPACT ANALYSIS REPORT VOLUME II-FIGURES

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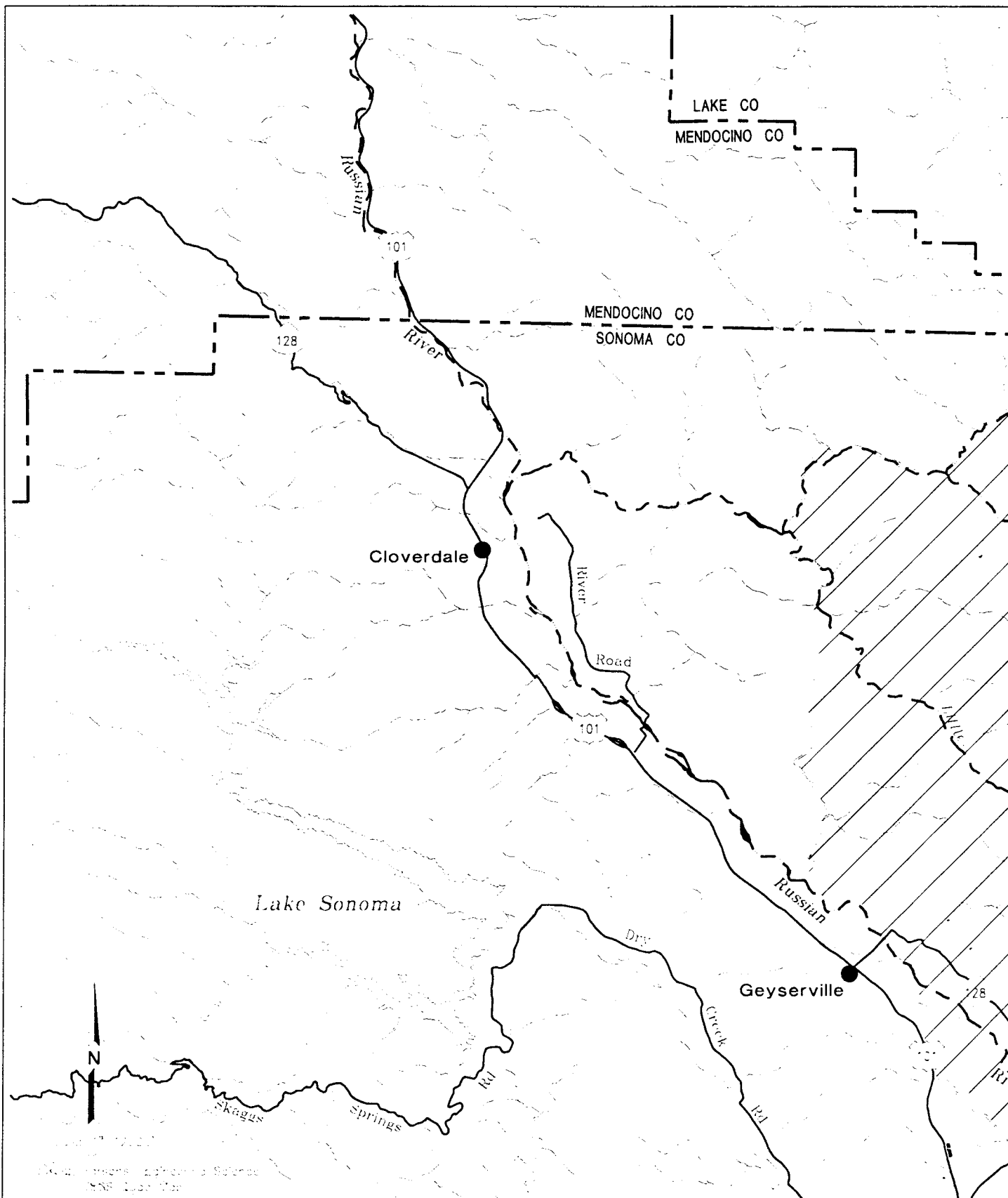
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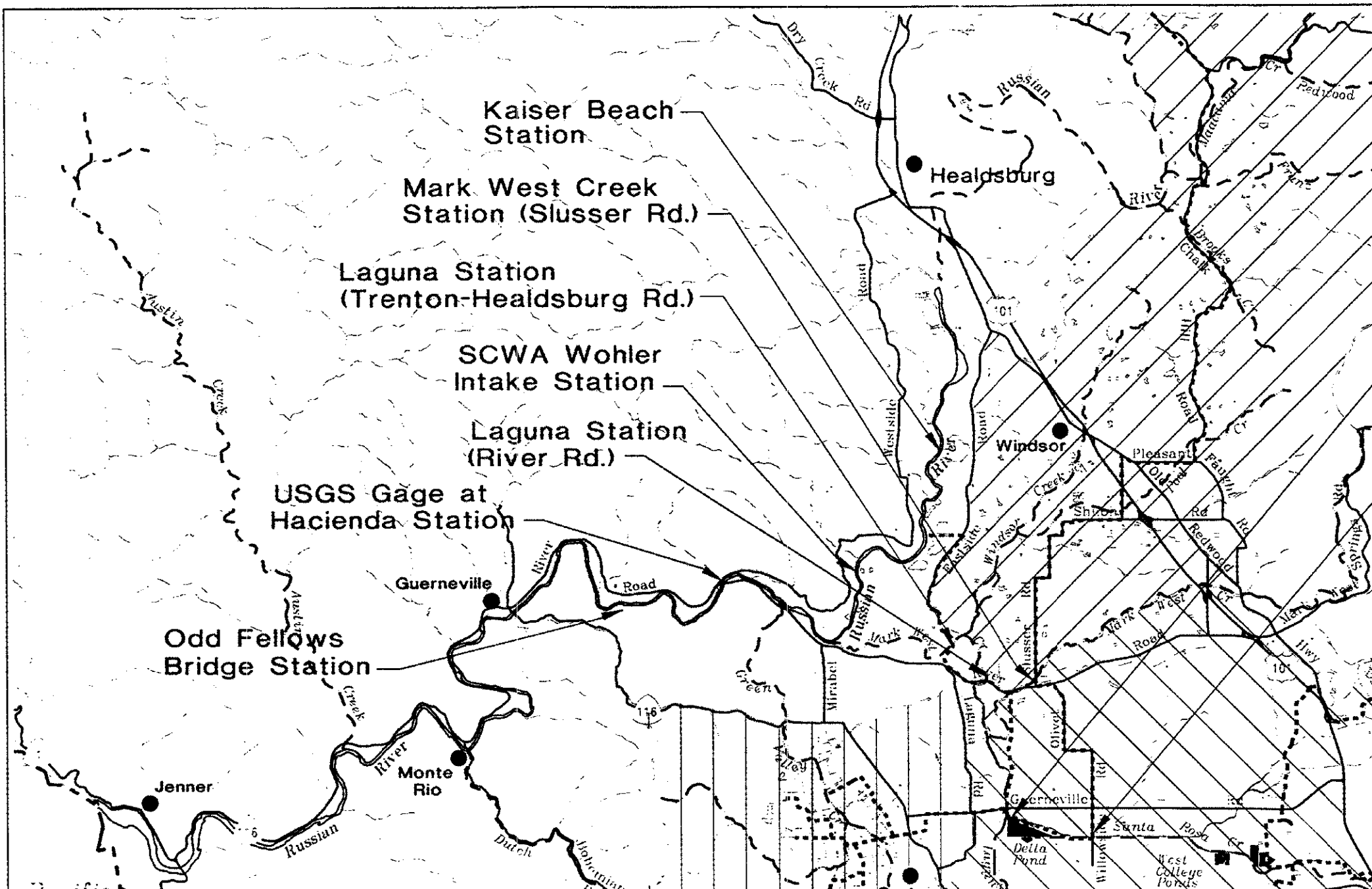


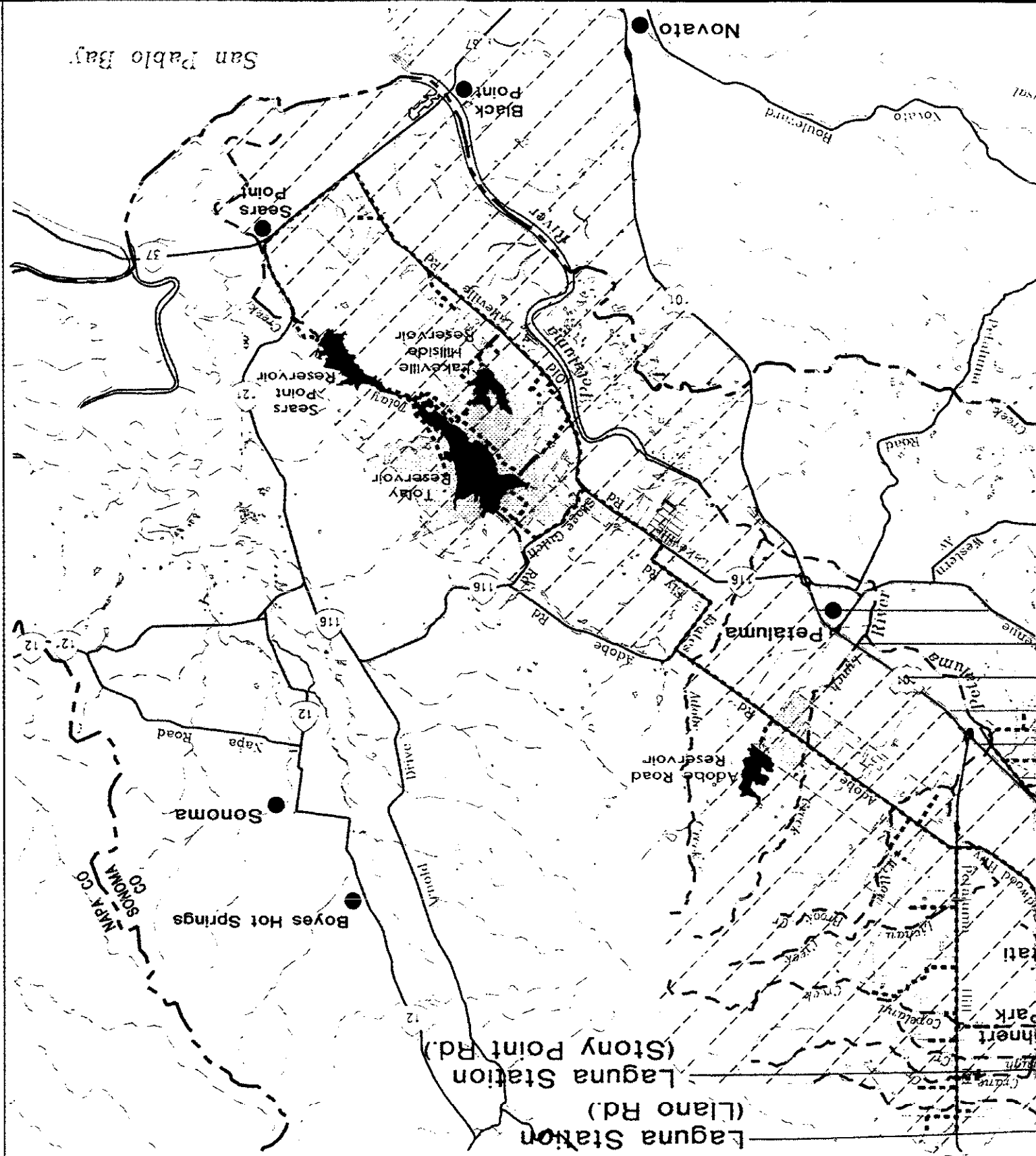
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Santa Rosa





**Figure 4-1. Distribution of Reclaimed Water Concentrations During the Discharge Season
Santa Rosa Creek - Project Operation**

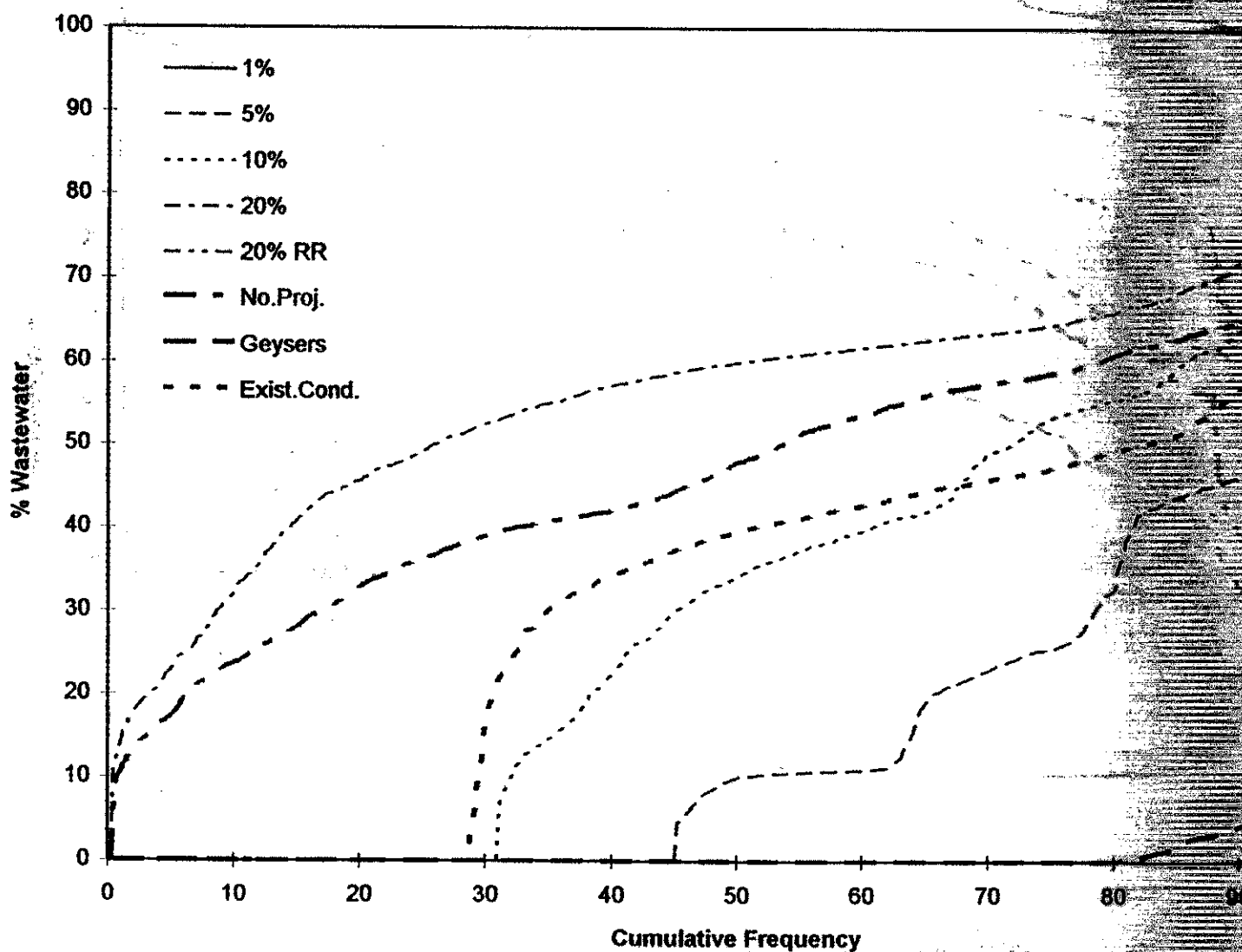


Figure 4-2. Distribution of Reclaimed Water Concentrations During the Discharge Season in a Normal Year (1961)
Santa Rosa Creek - Project Operation

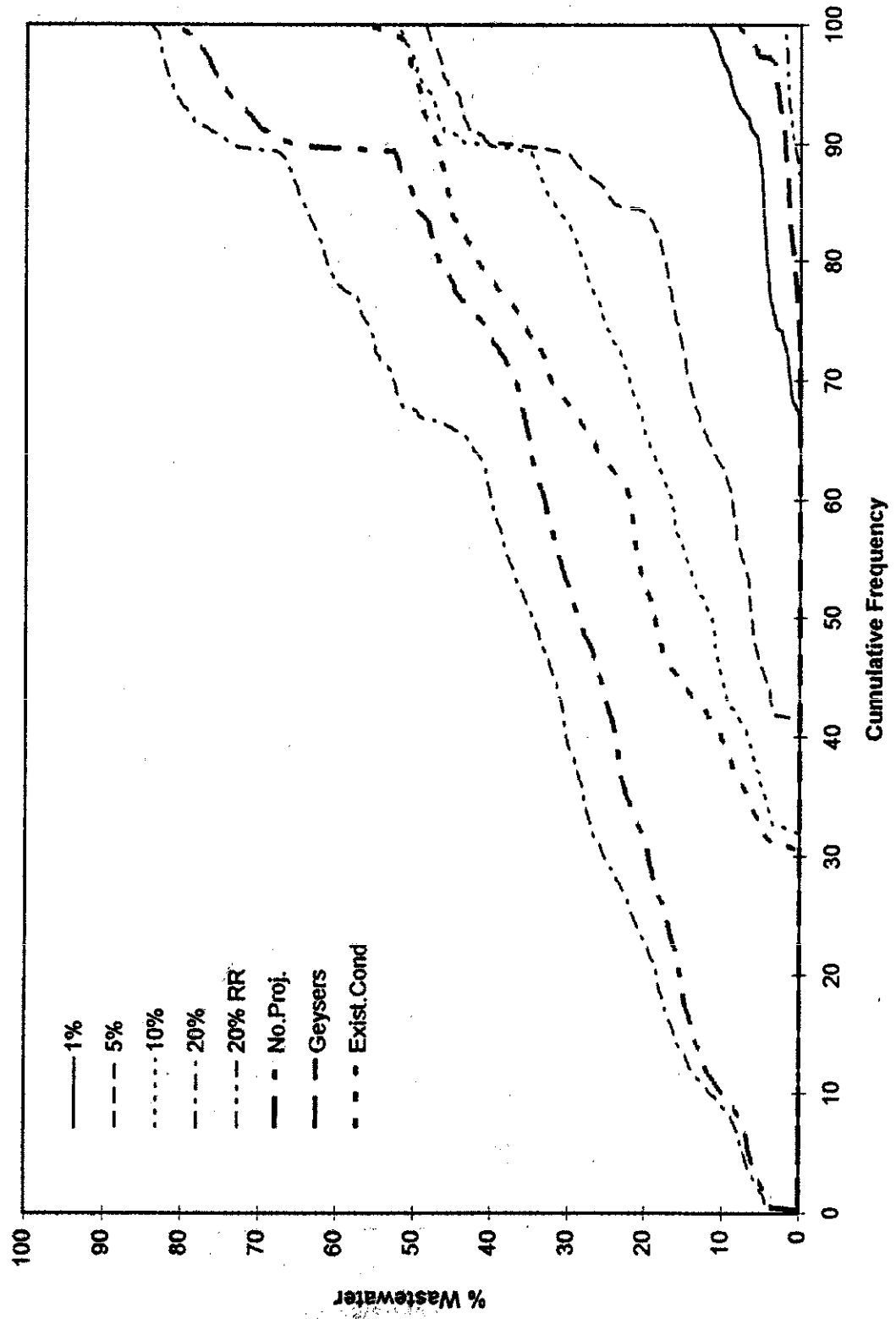
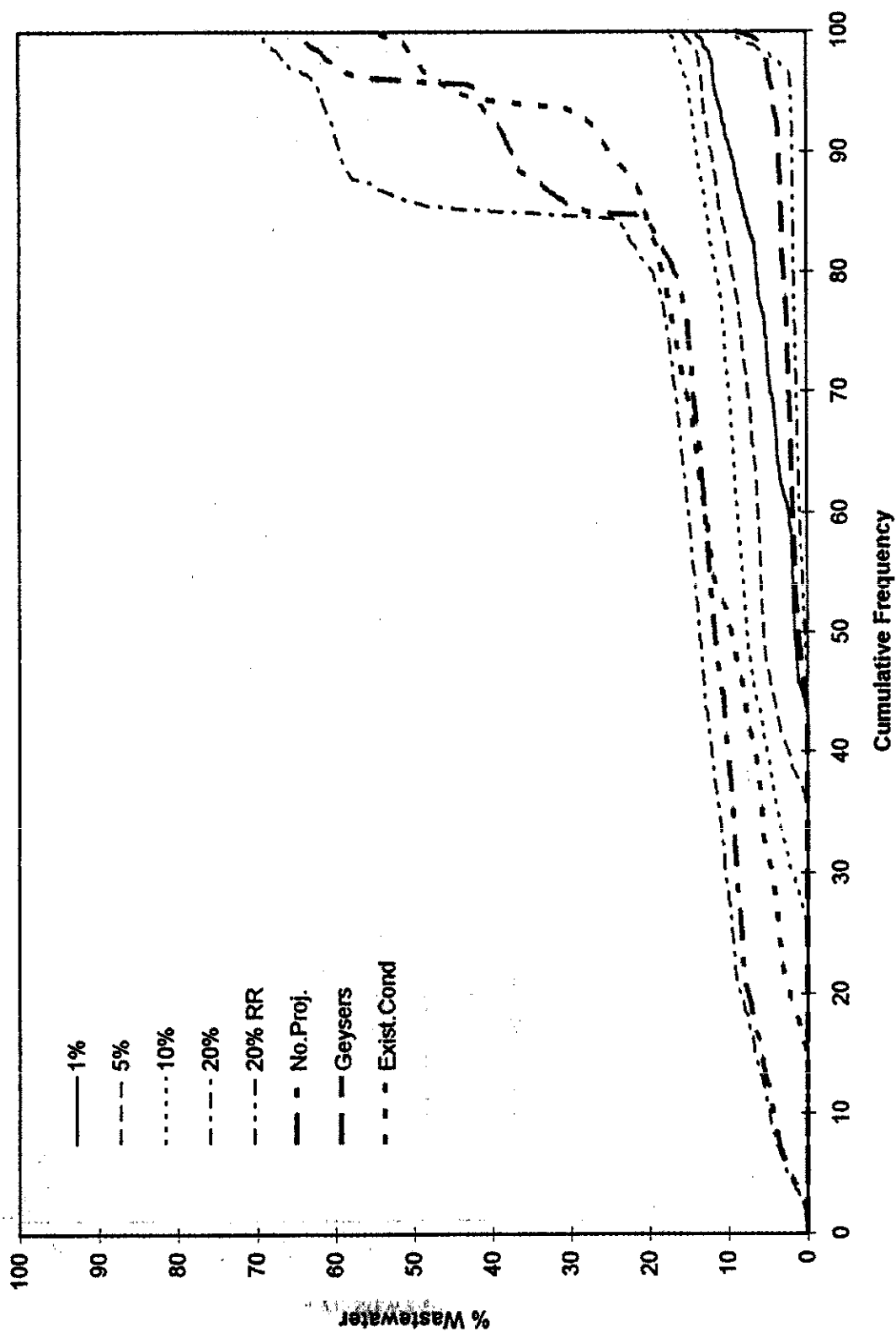


Figure 4-3. Distribution of Reclaimed Water Concentrations During the Discharge Season in a Wet Year (1982)
Santa Rosa Creek - Project Operation



**Figure 4-4. Distribution of Reclaimed Water Concentrations During the Discharge Season
Laguna de Santa Rosa - Project Operation**

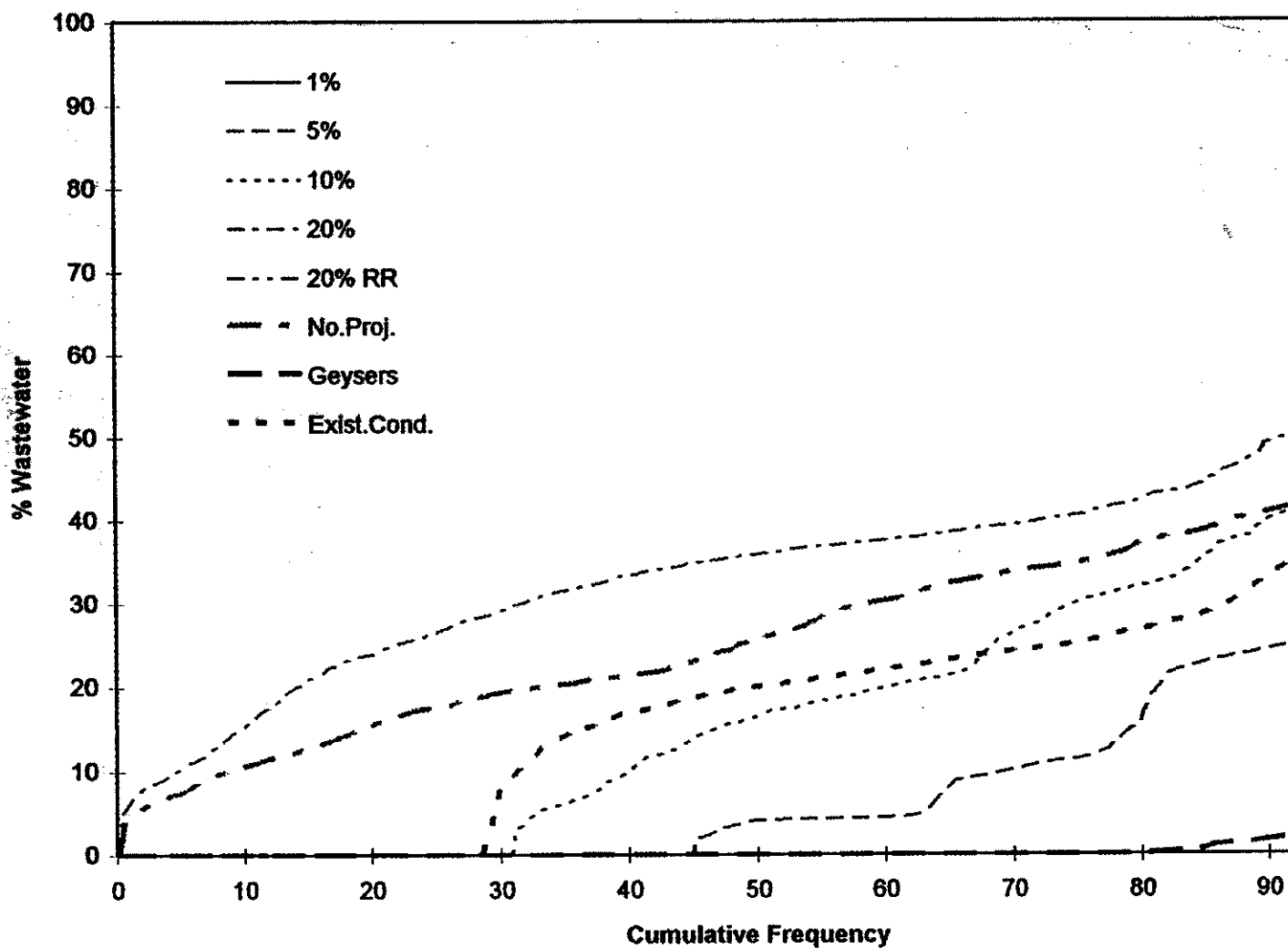
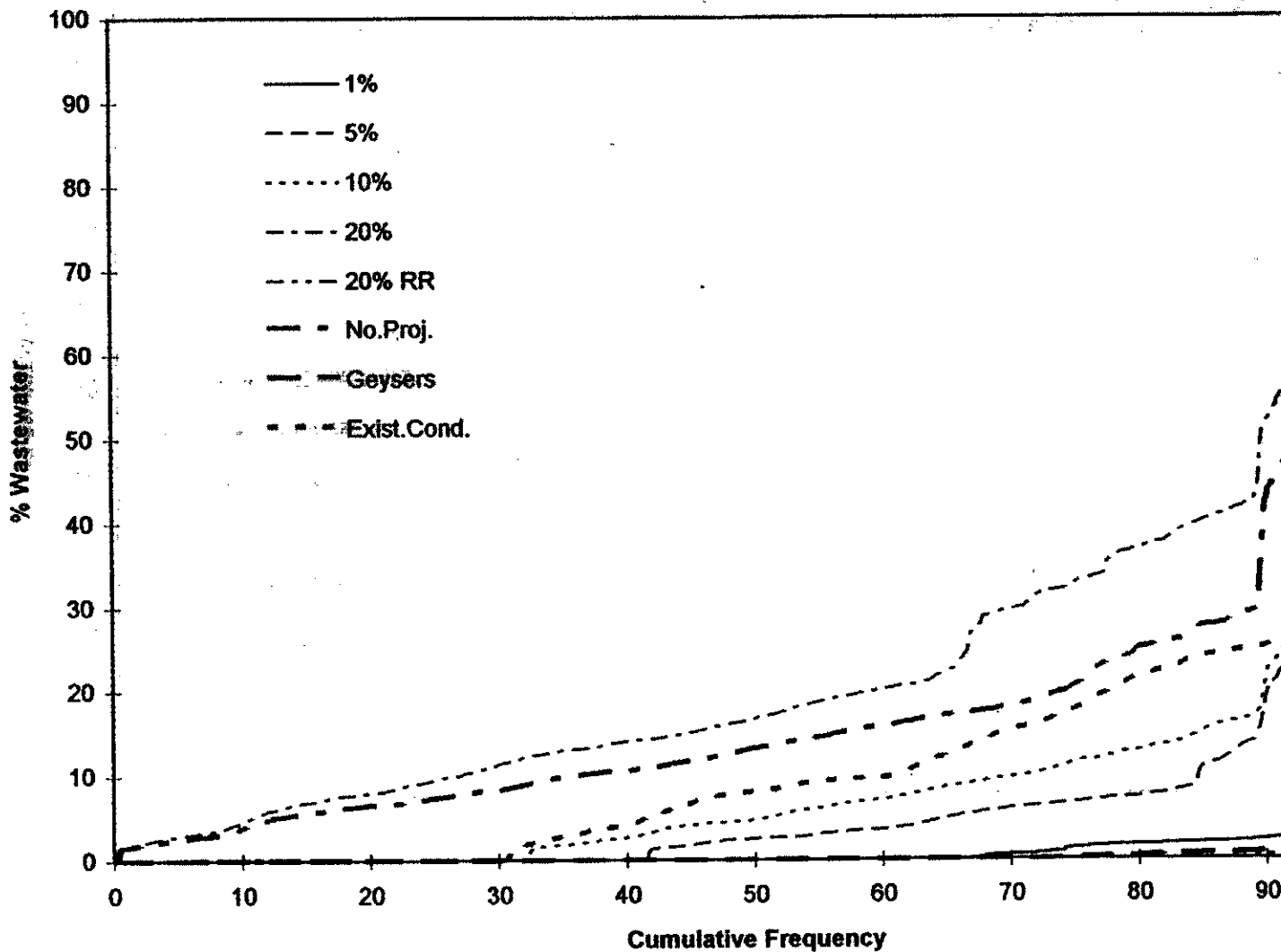
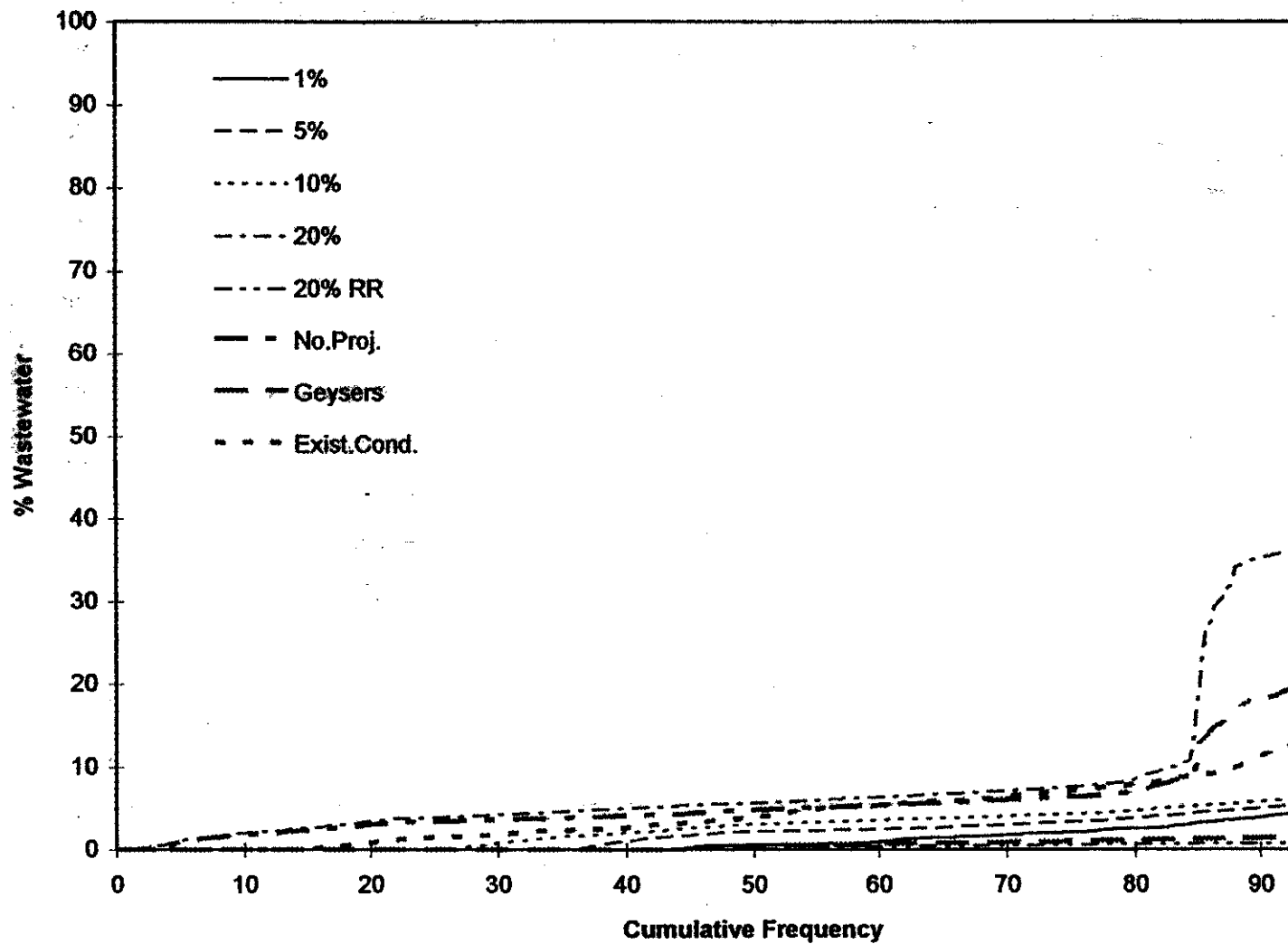


Figure 4-5. Distribution of Reclaimed Water Concentrations During the Discharge Season in Laguna de Santa Rosa - Project Operation



**Figure 4-6. Distribution of Reclaimed Water Concentrations During the Discharge Season
Laguna de Santa Rosa - Project Operation**



**Figure 4-7. Distribution of Reclaimed Water Concentrations During the Discharge Season
Russian River Below Laguna - Project Operation**

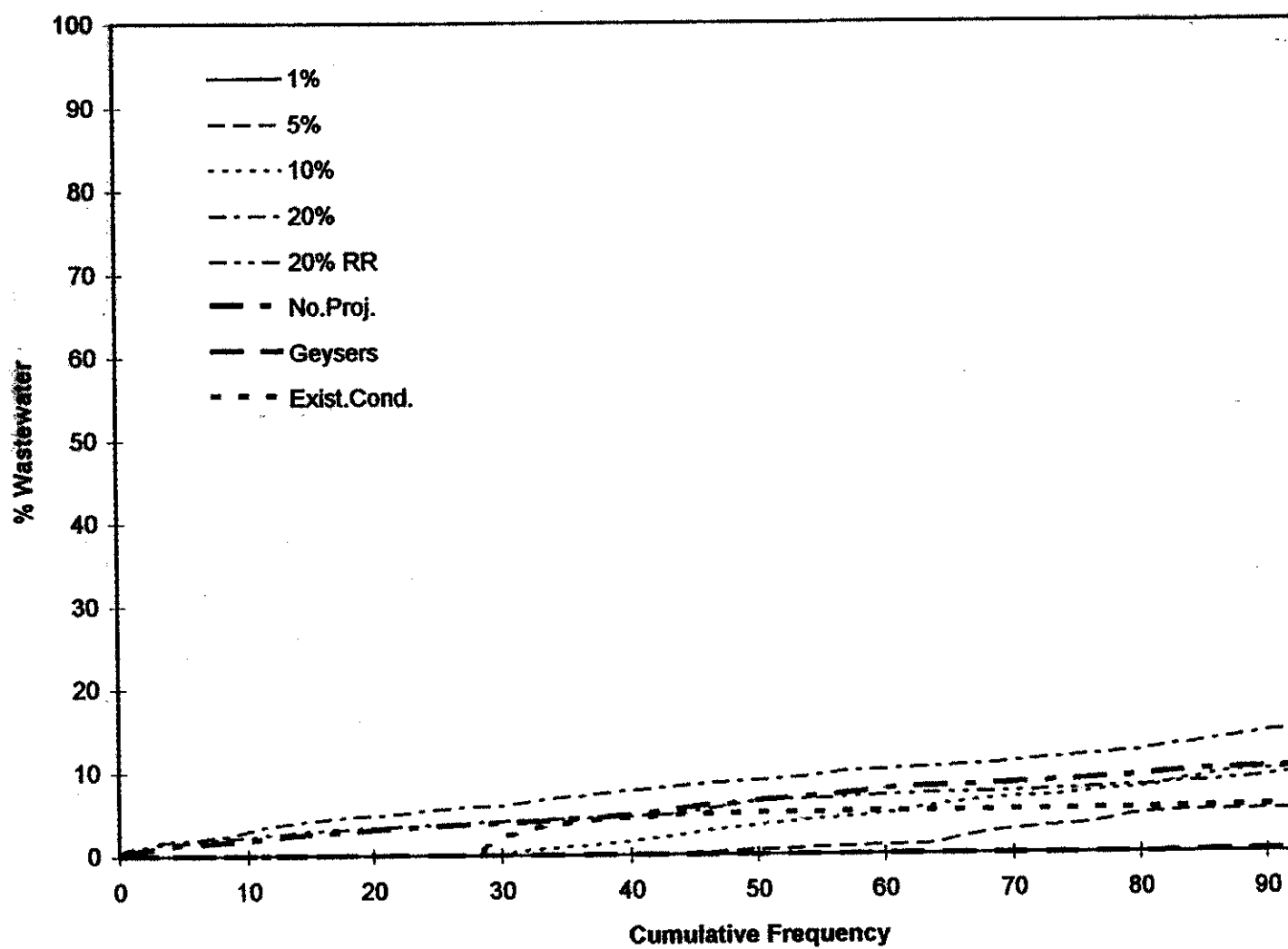
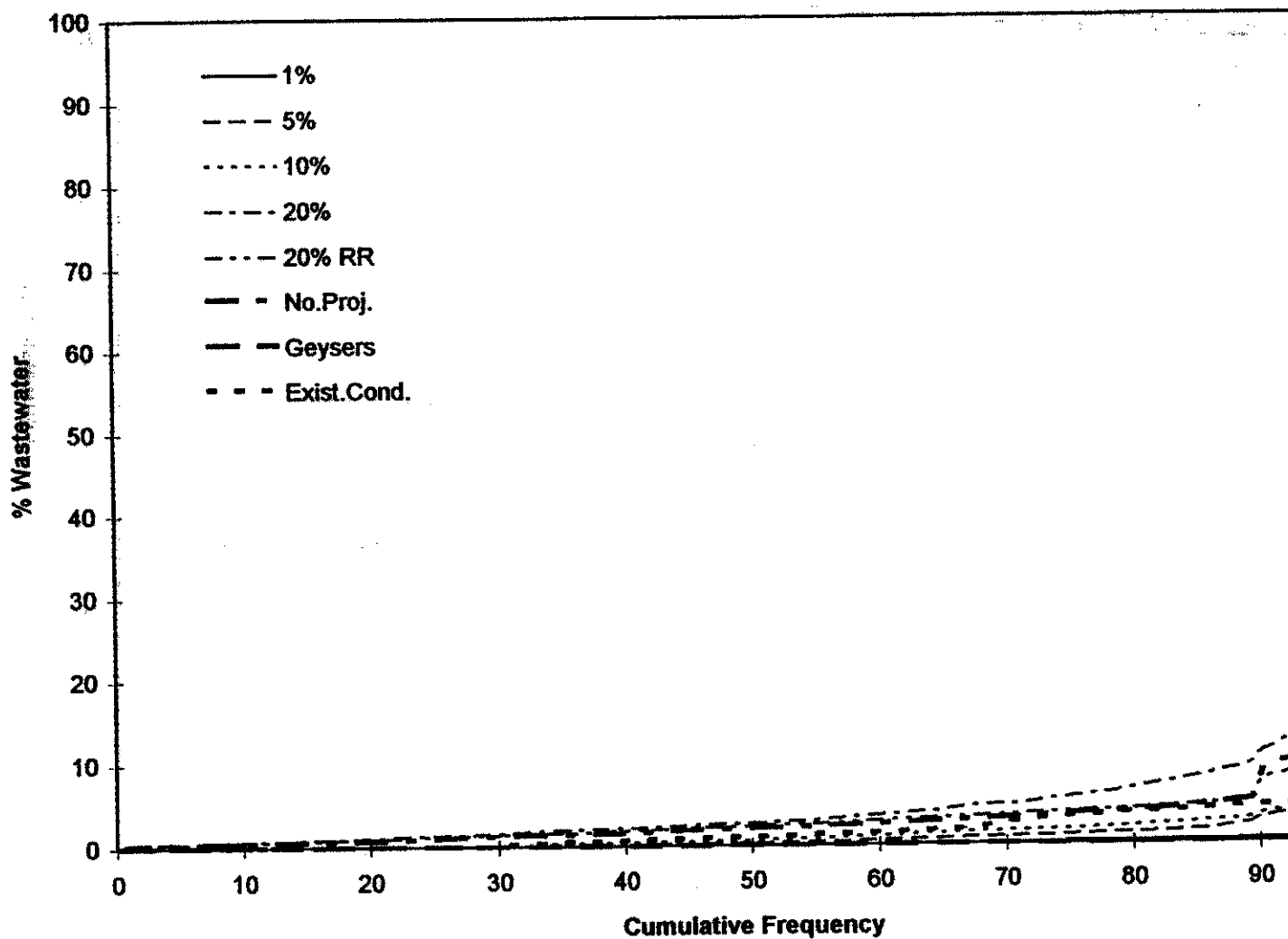
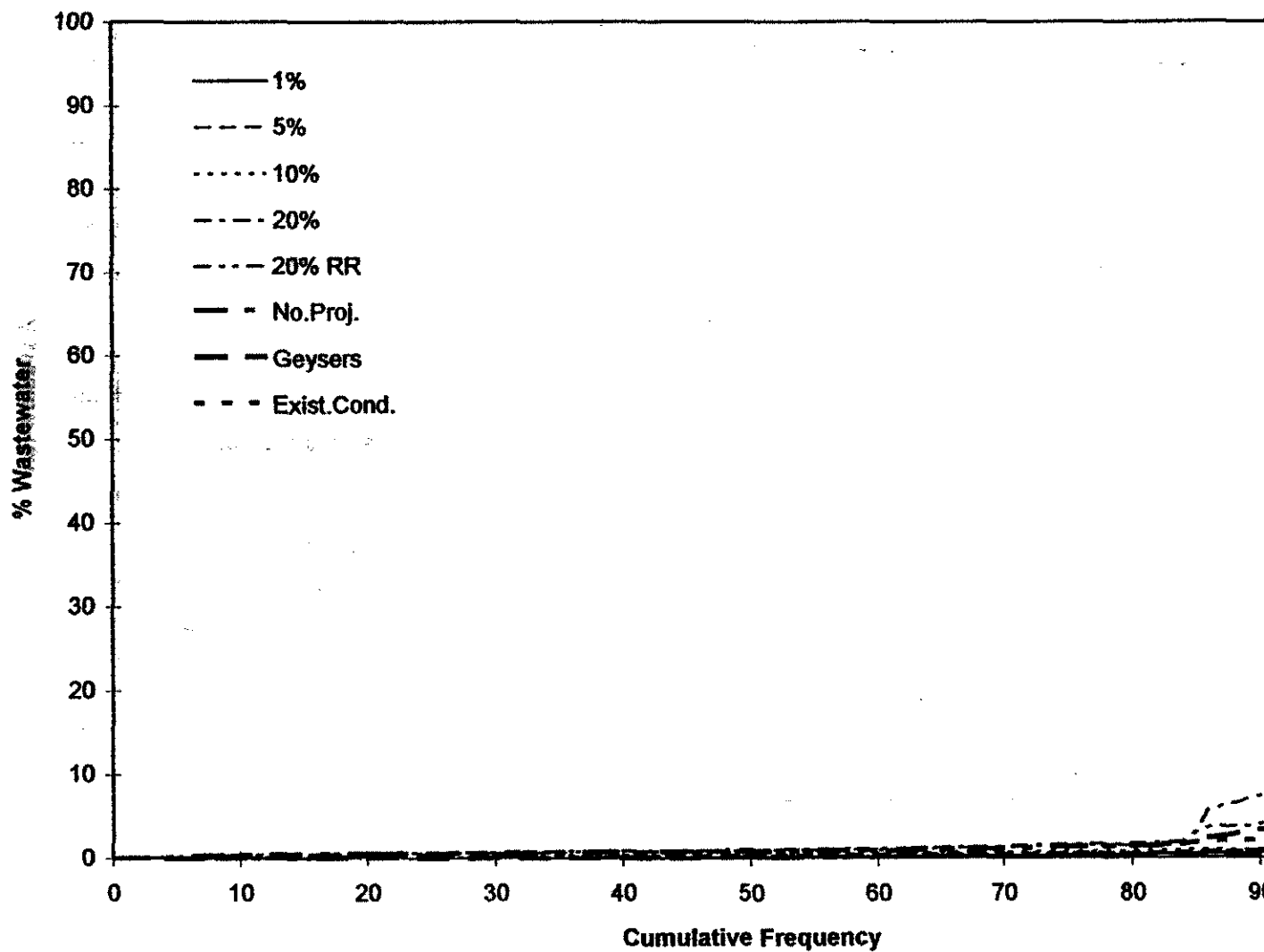


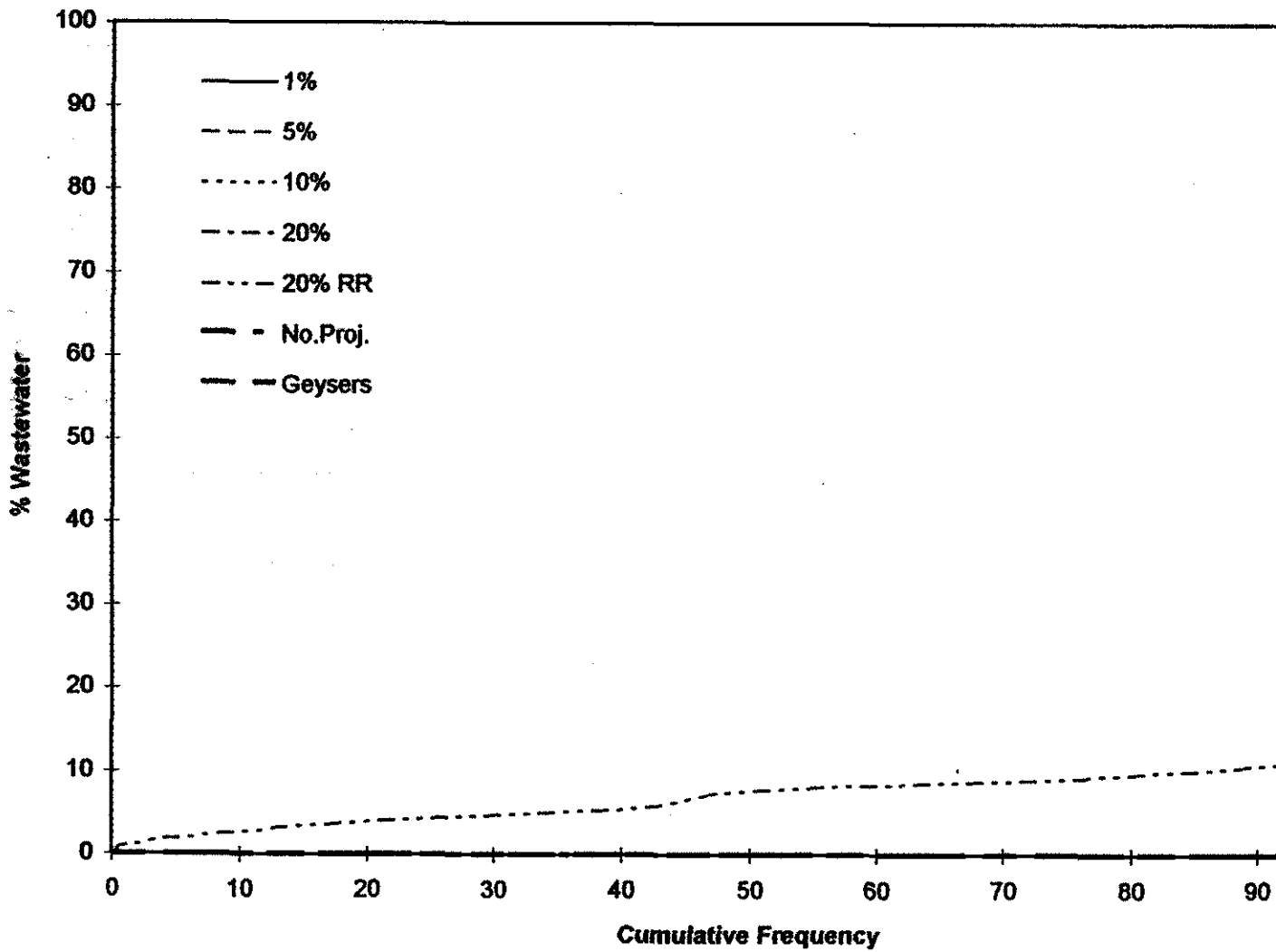
Figure 4-8. Distribution of Reclaimed Water Concentration During the Discharge Season in a Russian River Below Laguna - Project Operation



**Figure 4-9. Distribution of Reclaimed Water Concentrations During the Discharge Season
Russian River Below Laguna - Project Operation**



**Figure 4-10. Distribution of Reclaimed Water Concentration During the Discharge Season
Russian River Above Laguna - Project Operation**



**Figure 4-11. Distribution of Reclaimed Water Concentration During the Discharge Season
(1961)
Russian River Above Laguna - Project Operation**

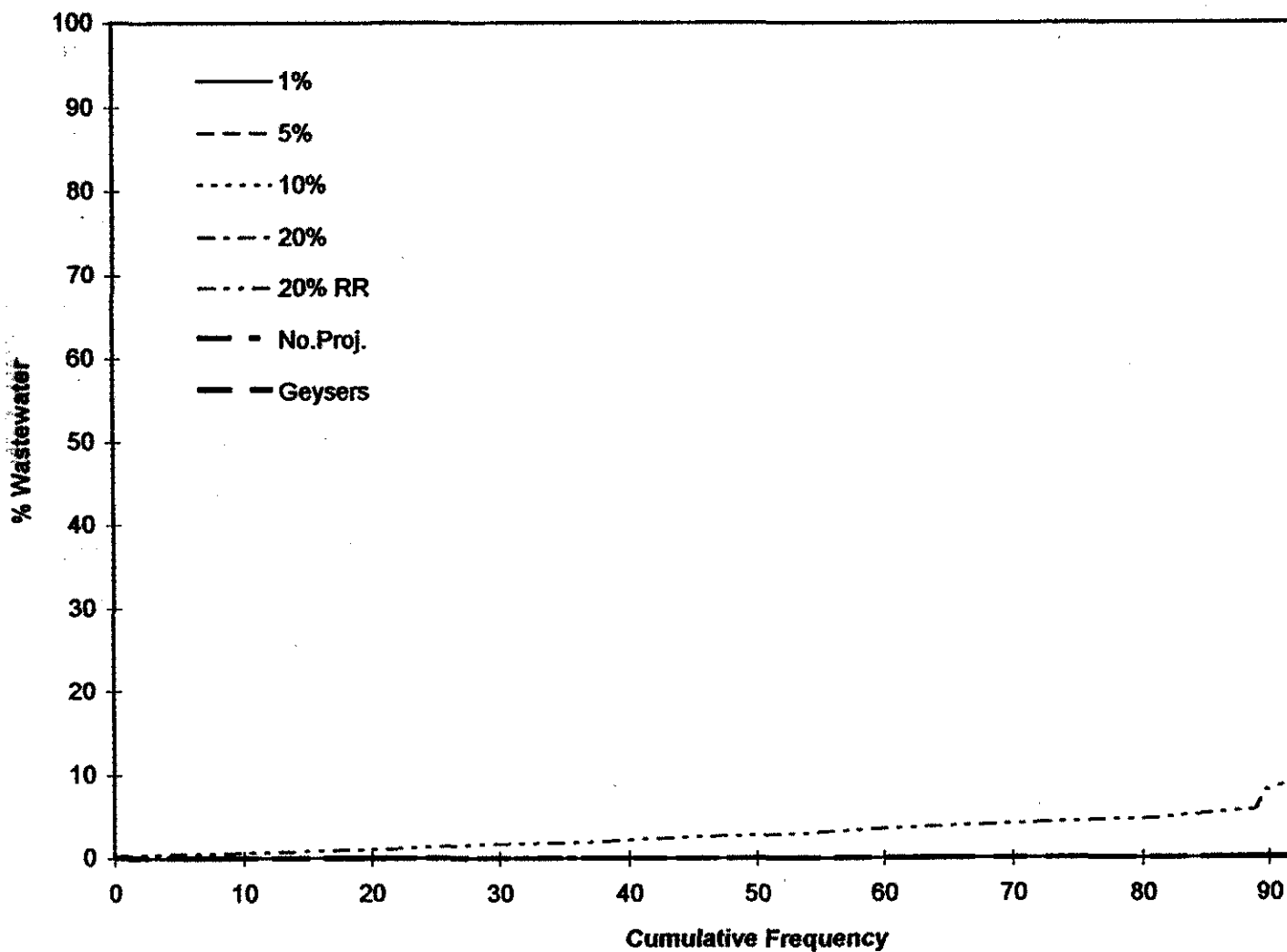


Figure 4-12. Distribution of Reclaimed Water Concentrations During the Discharge Season in a Wet Year (1982)
Russian River Above Laguna - Project Operation

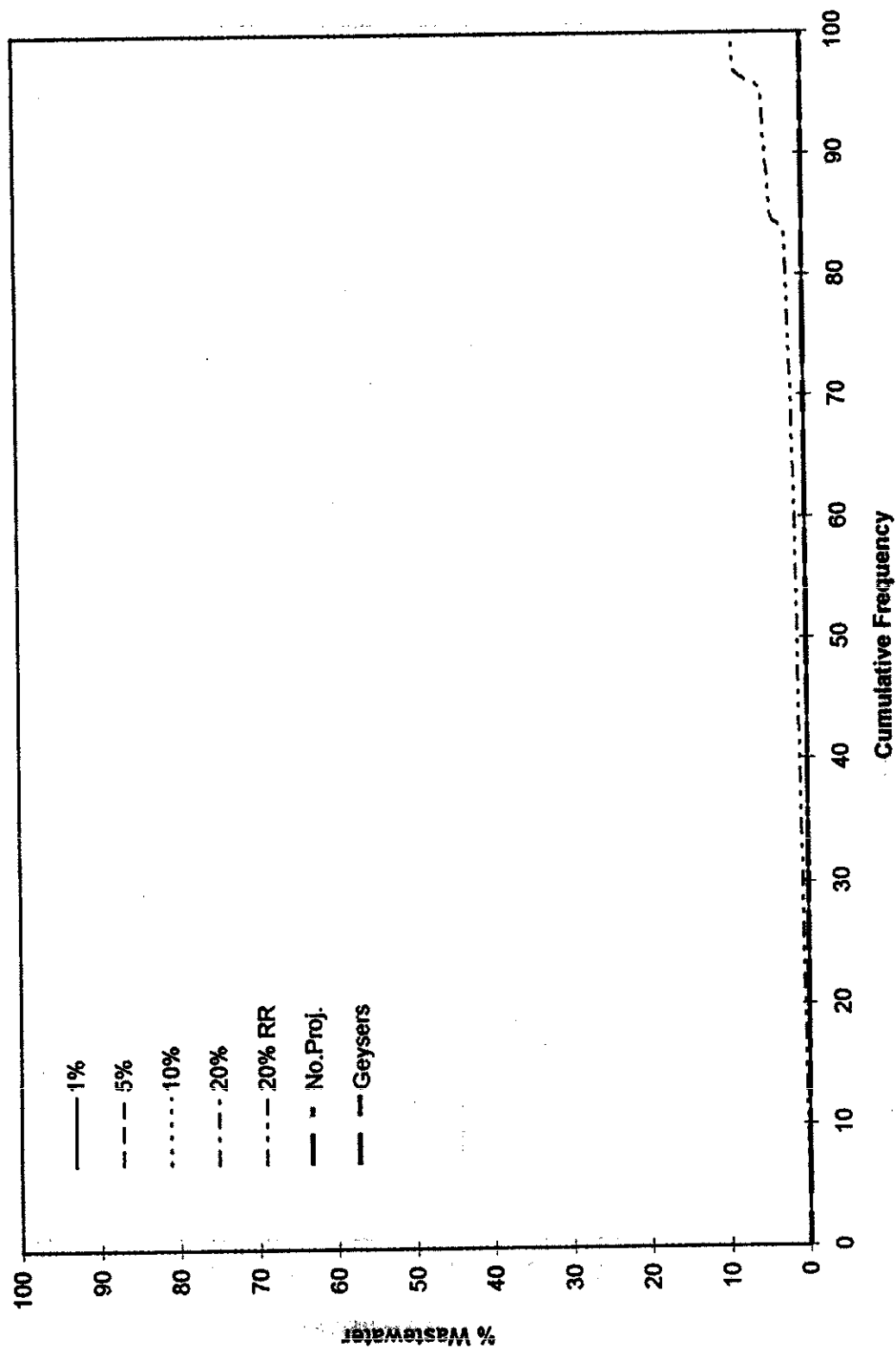
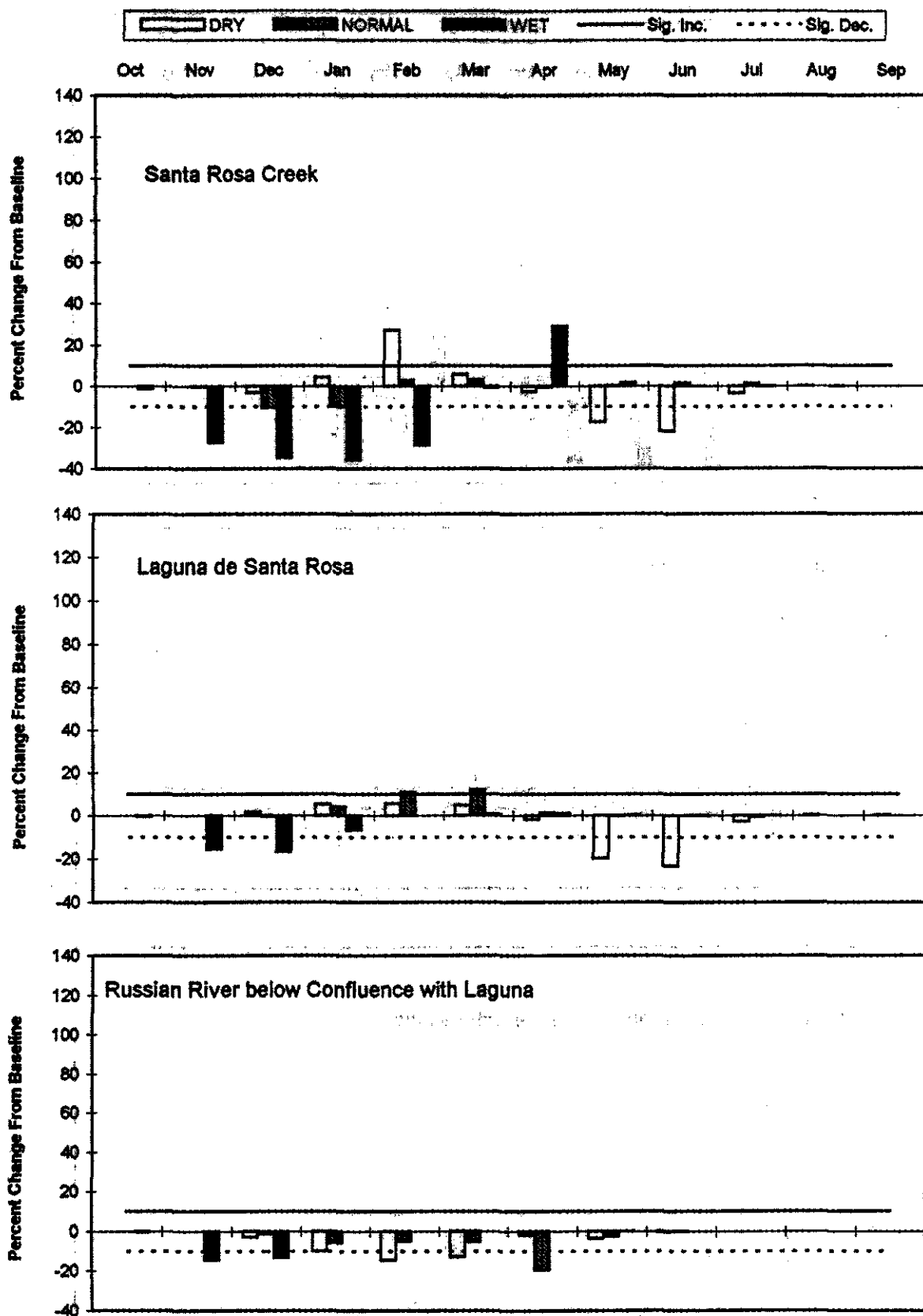
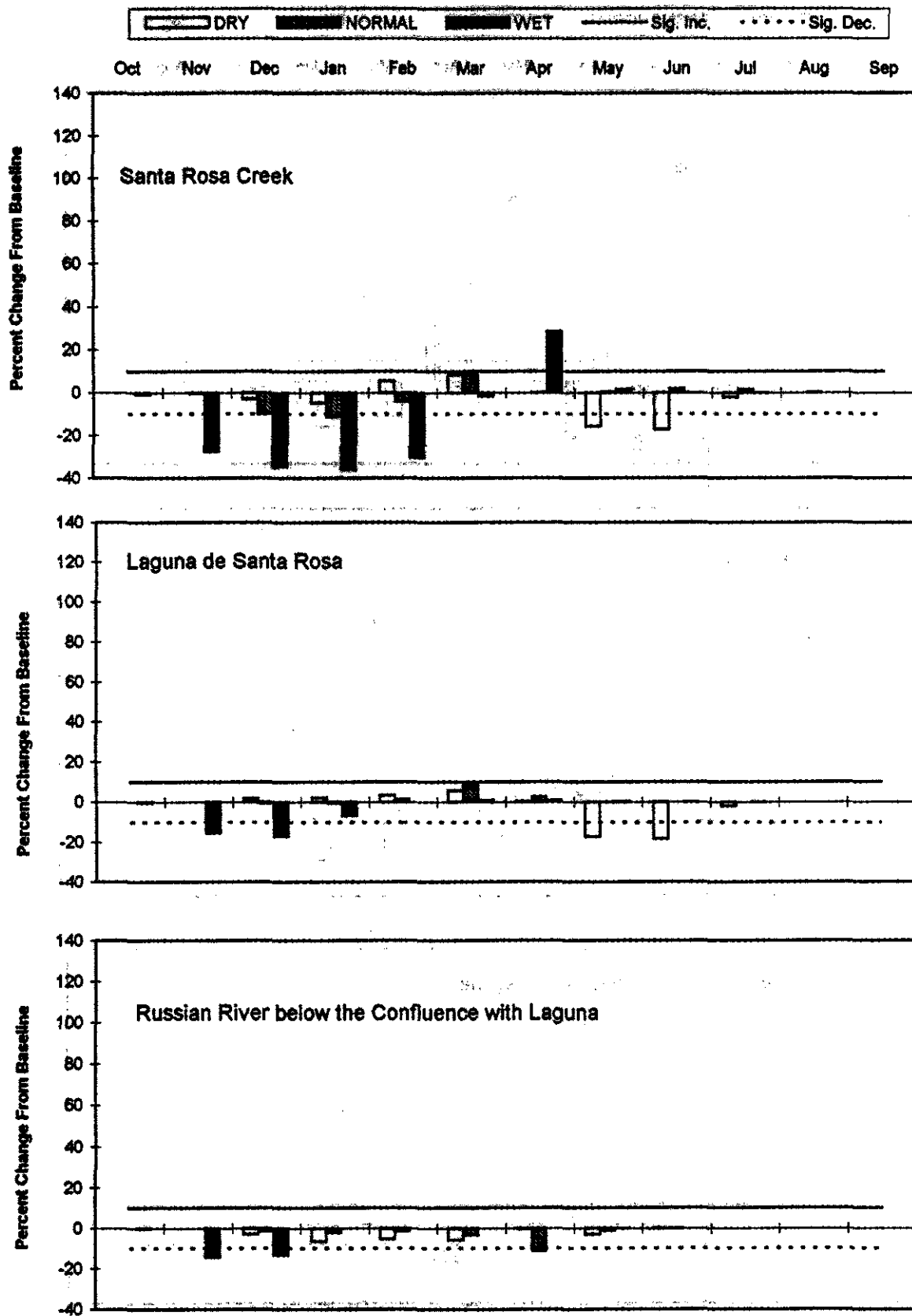


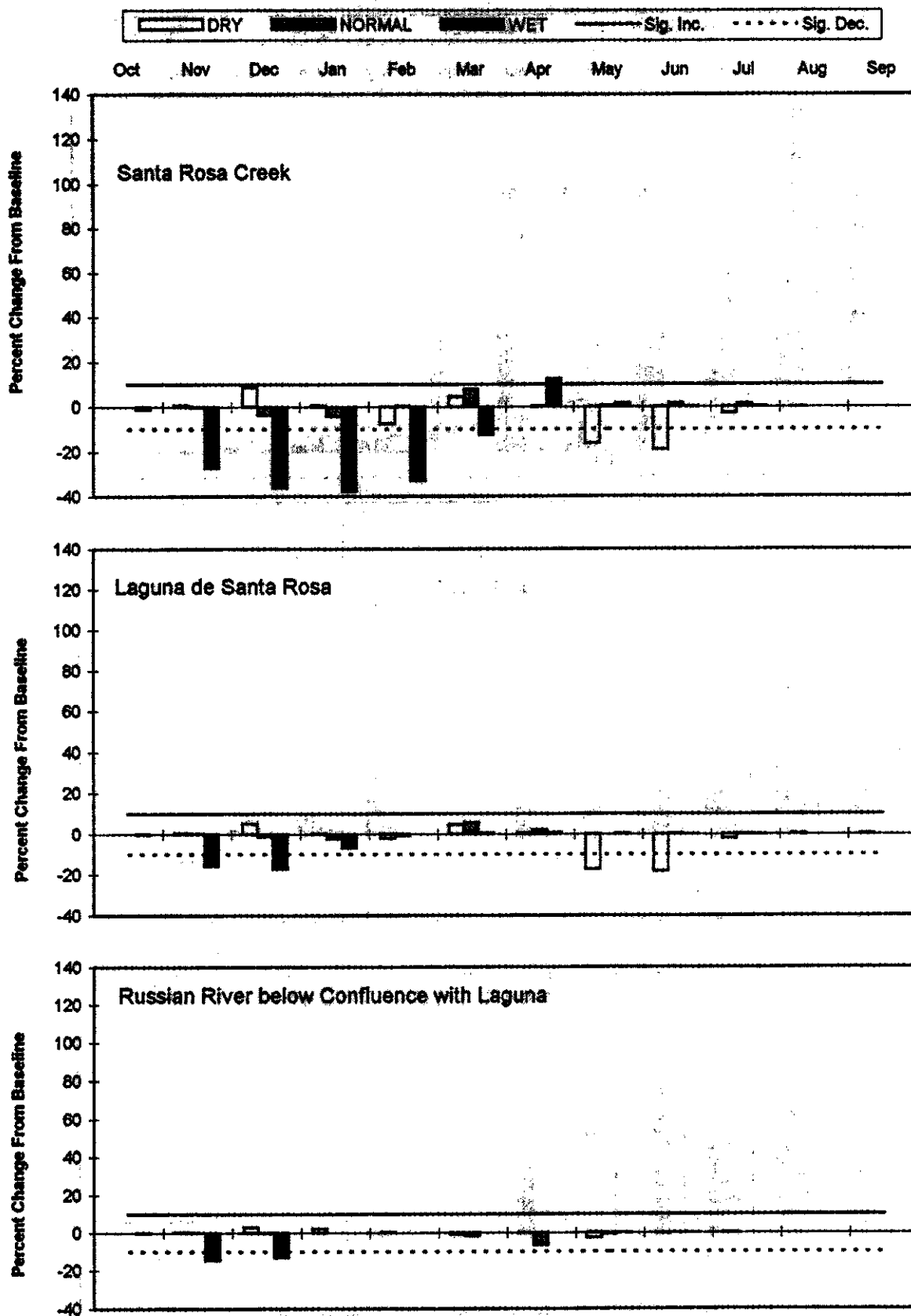
FIGURE 4-13. Discharge Impacts on Benthic Algae - 1% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations



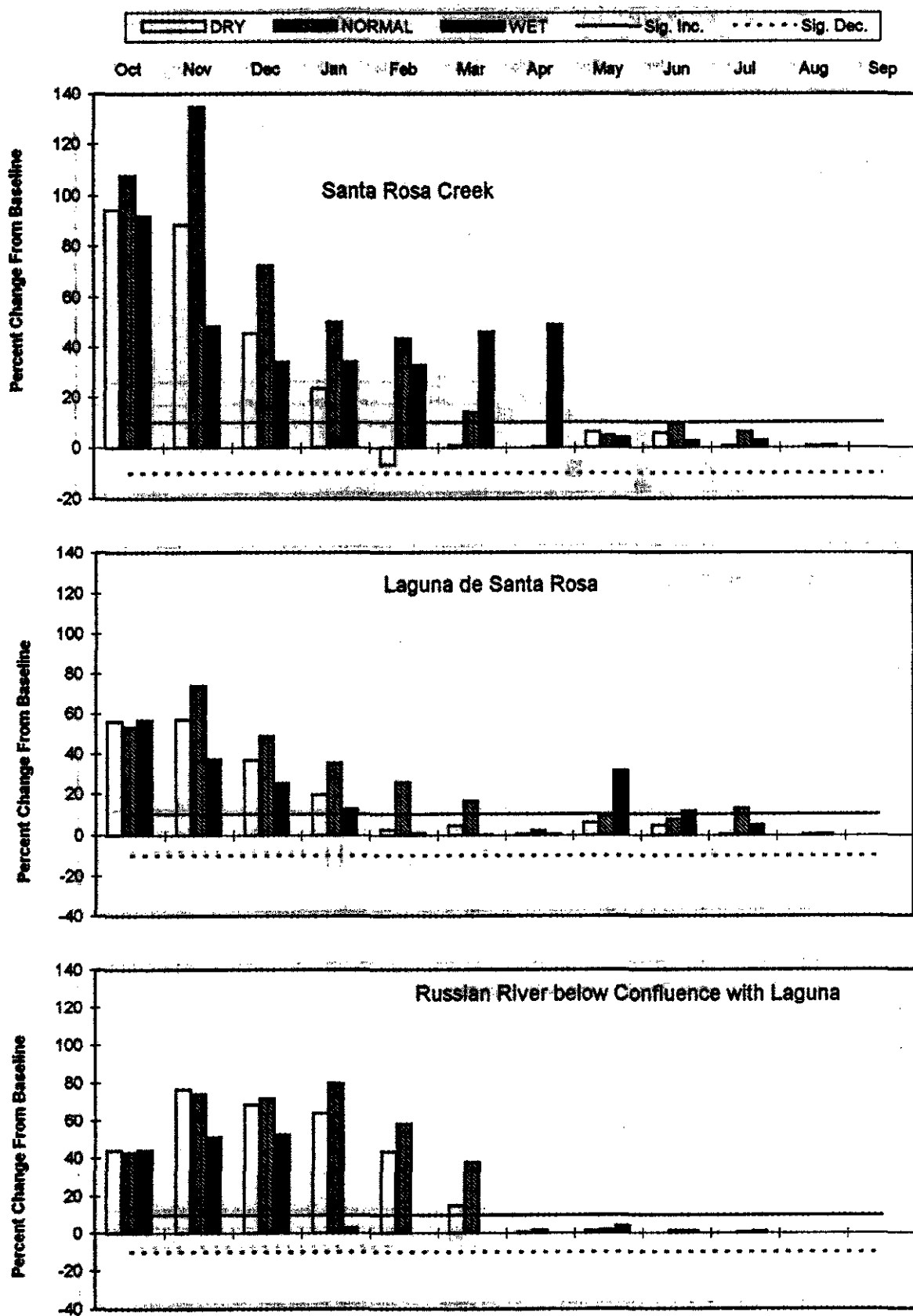
**FIGURE 4-13. Discharge Impacts on Benthic Algae - 5% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations**



**FIGURE 4-13. Discharge Impacts on Benthic Algae - 10% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations**



**FIGURE 4-13. Discharge Impacts on Benthic Algae - 20% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations**



**FIGURE 4-13. Discharge Impacts on Benthic Algae - 20% Discharge to the Russian River
Existing Conditions Baseline - Project Operations**

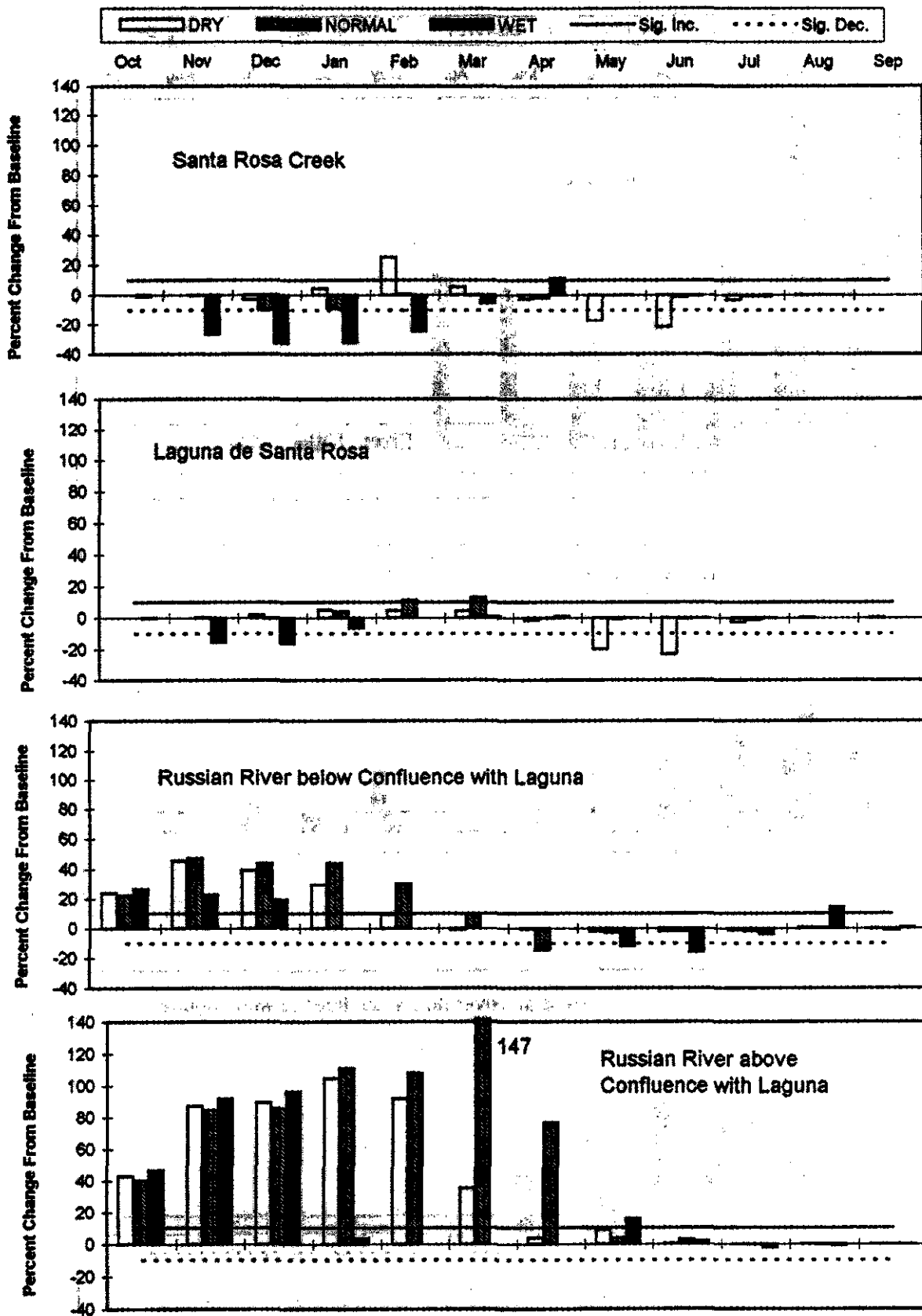


FIGURE 4-13. Discharge Impacts on Benthic Algae - No Project
Existing Conditions Baseline - Project Operations

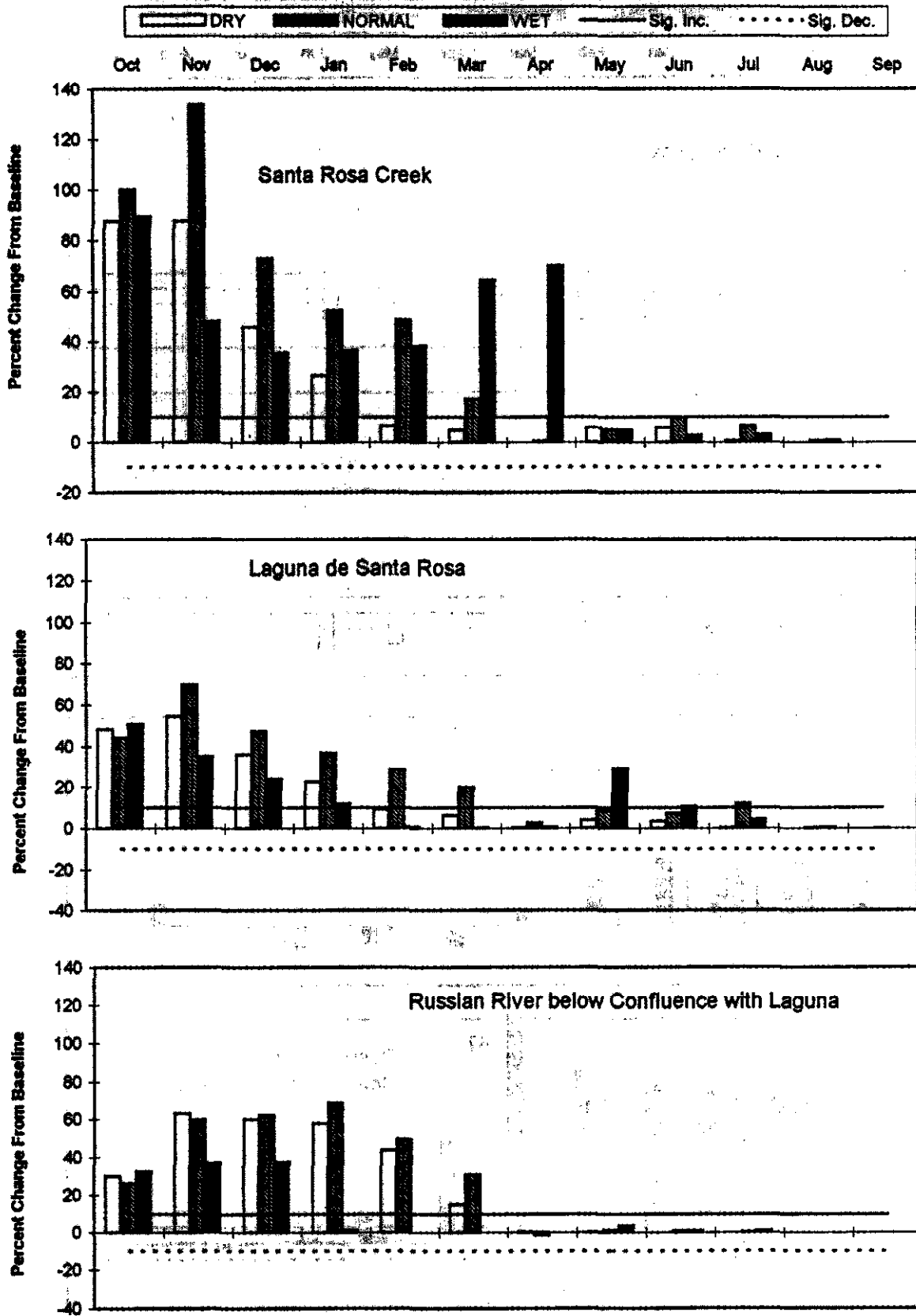


FIGURE 4-14. Discharge Impacts on Planktonic Algae - 1% Discharge to the Laguna de Santa

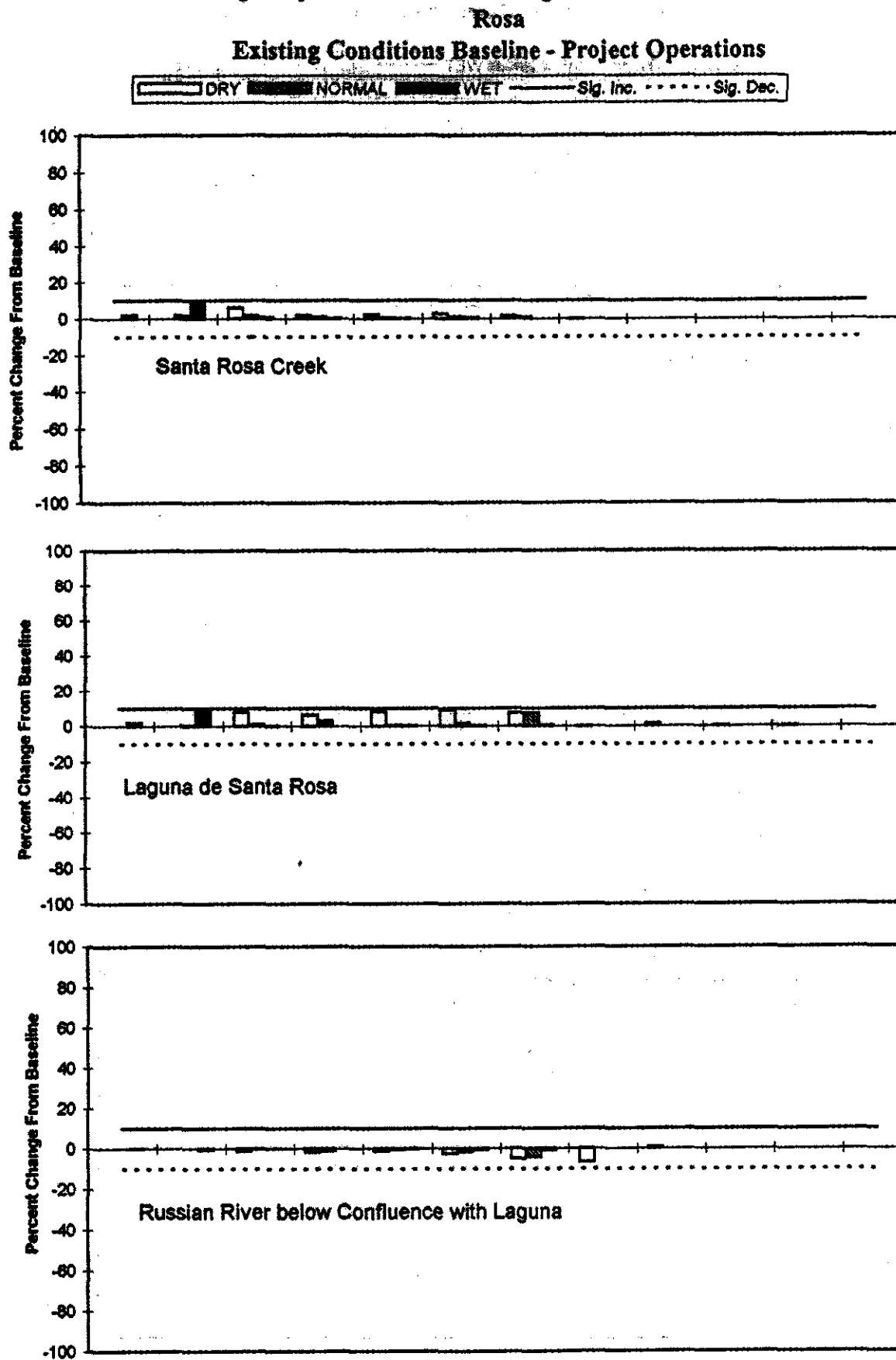


FIGURE 4-14. Discharge Impacts on Planktonic Algae - 5% Discharge to the Laguna de Santa

Rosa
Existing Conditions Baseline - Project Operations

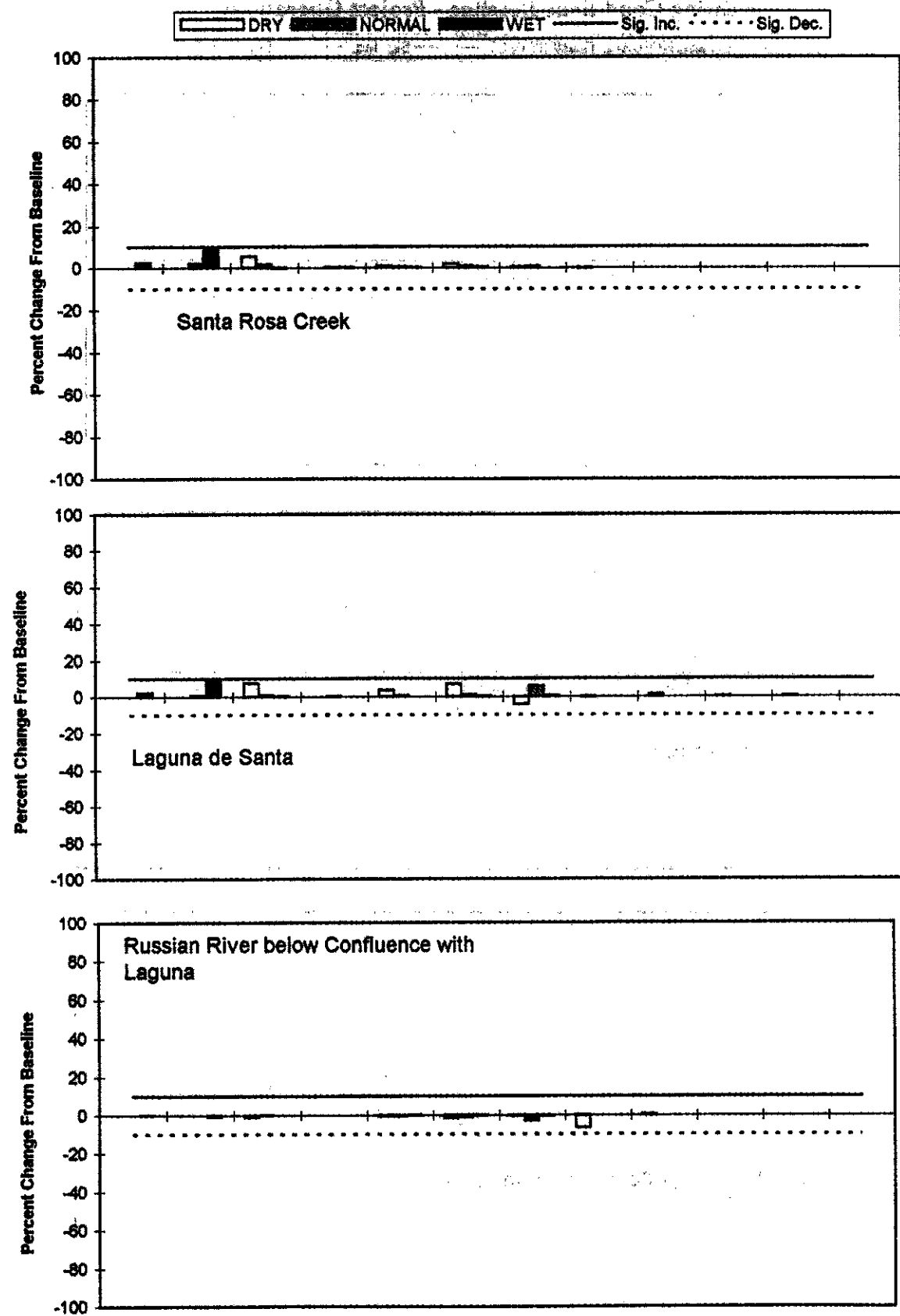


FIGURE 4-14. Discharge Impacts on Planktonic Algae - 10% Discharge to the Laguna de Santa Rosa

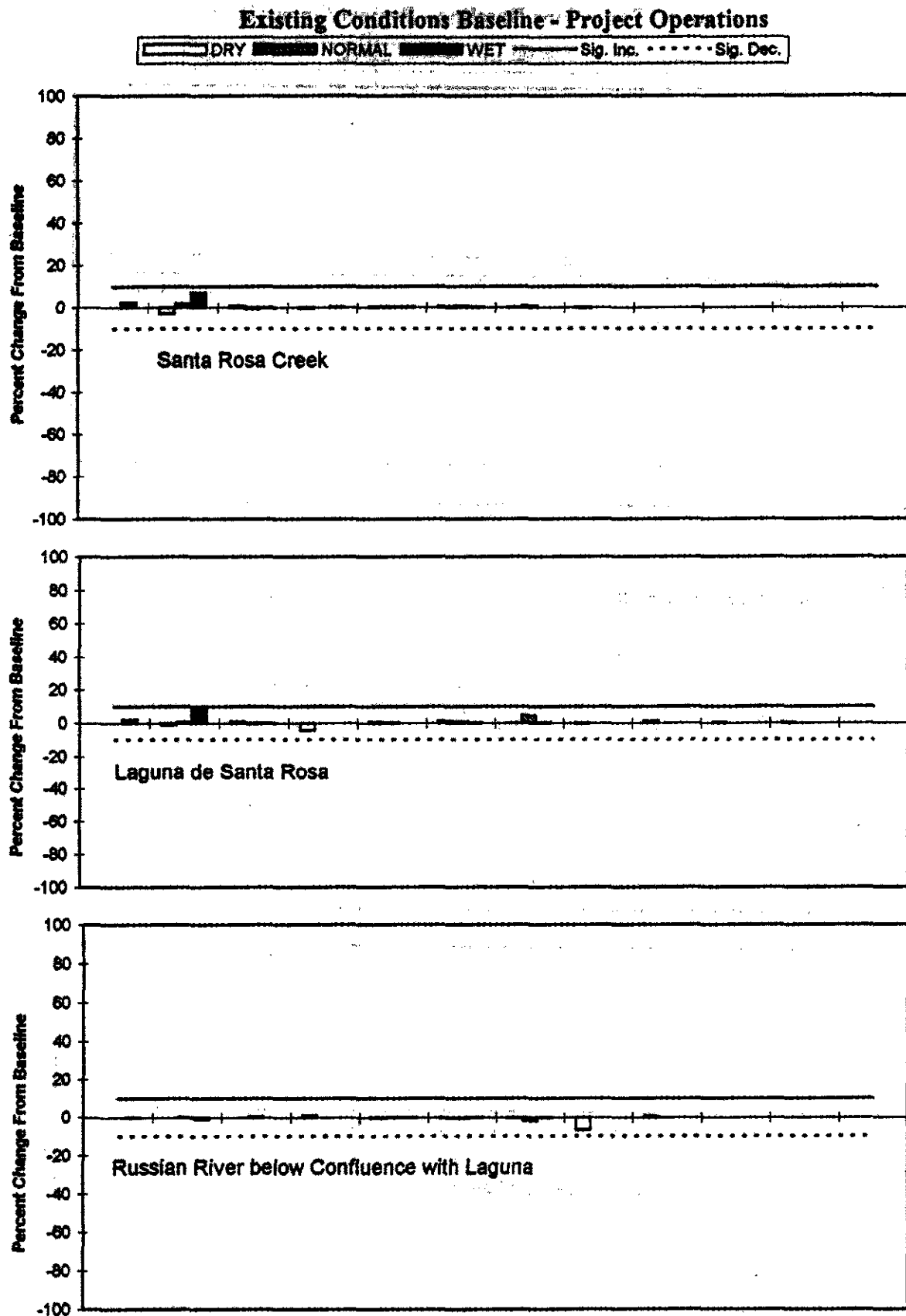
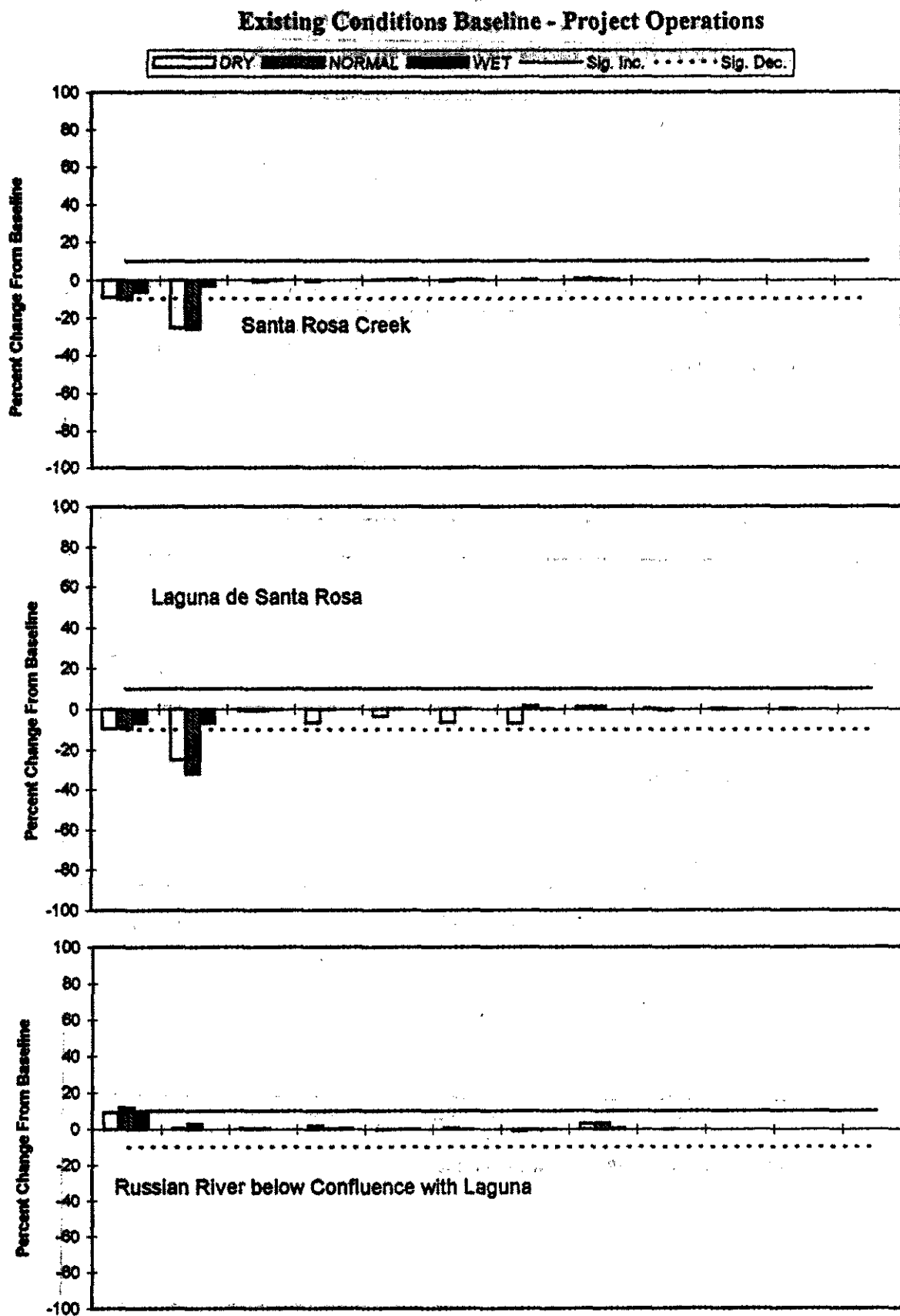
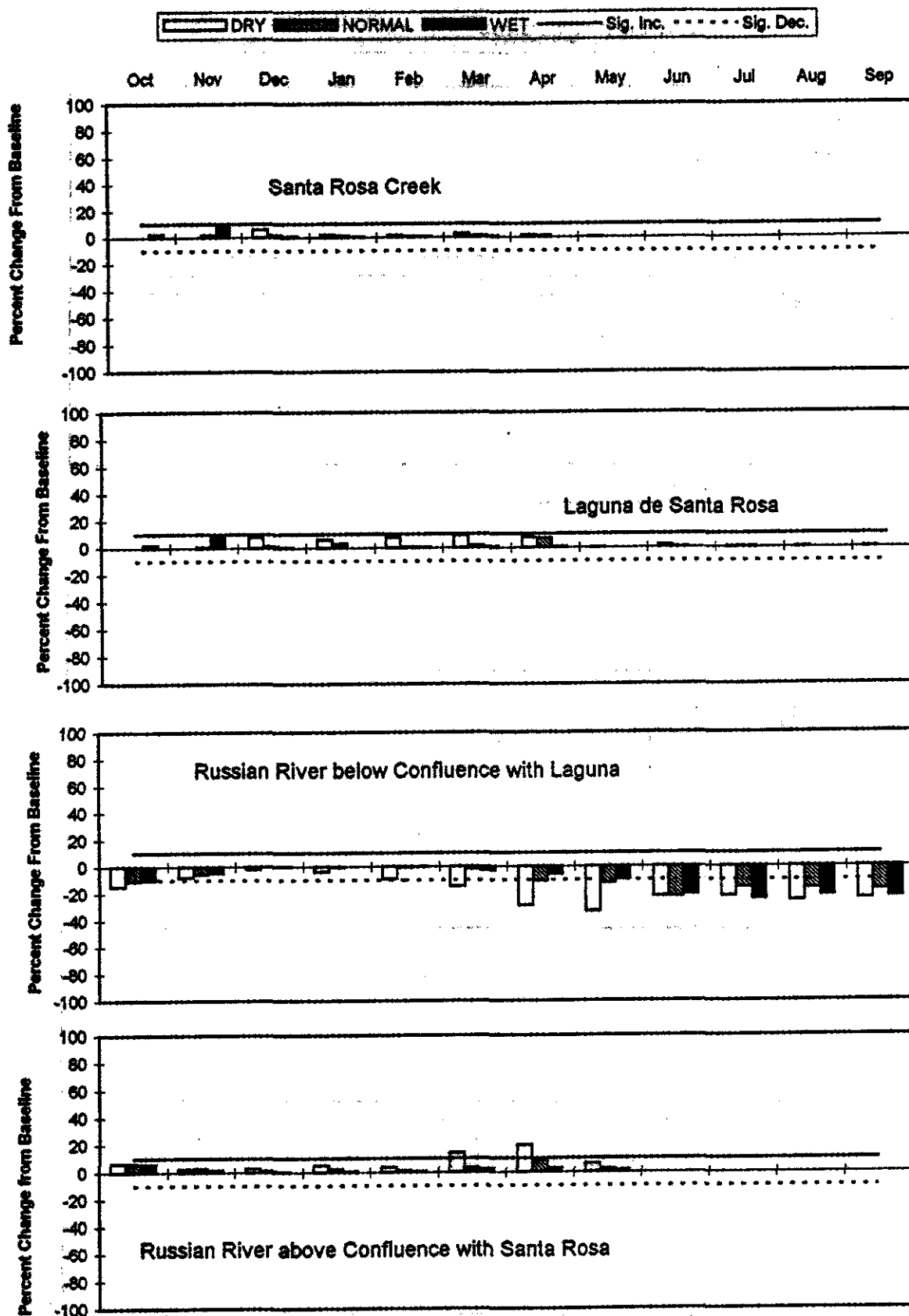


FIGURE 4-14. Discharge Impacts on Planktonic Algae - 20% Discharge to the Laguna de Santa Rosa



**FIGURE 4-14. Discharge Impacts on Planktonic Algae-20% Discharge to Russian River
Existing Conditions Baseline - Project Operations**



**FIGURE 4-14. Discharge Impacts on Planktonic Algae - No Project
Existing Conditions Baseline - Project Operations**

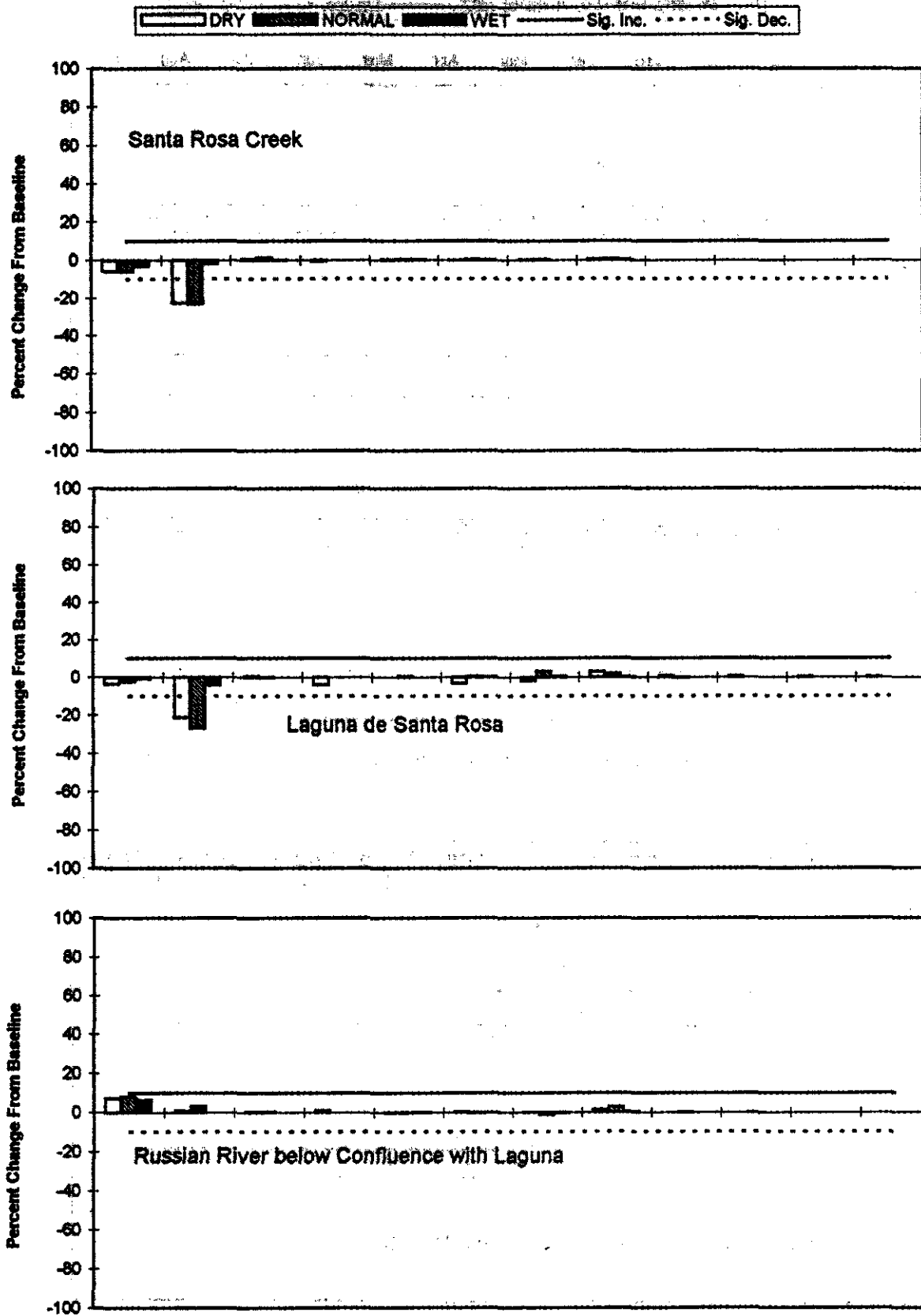


FIGURE 4-14. Discharge Impacts on Planktonic Algae - Geysers
Existing Conditions Baseline - Project Operations

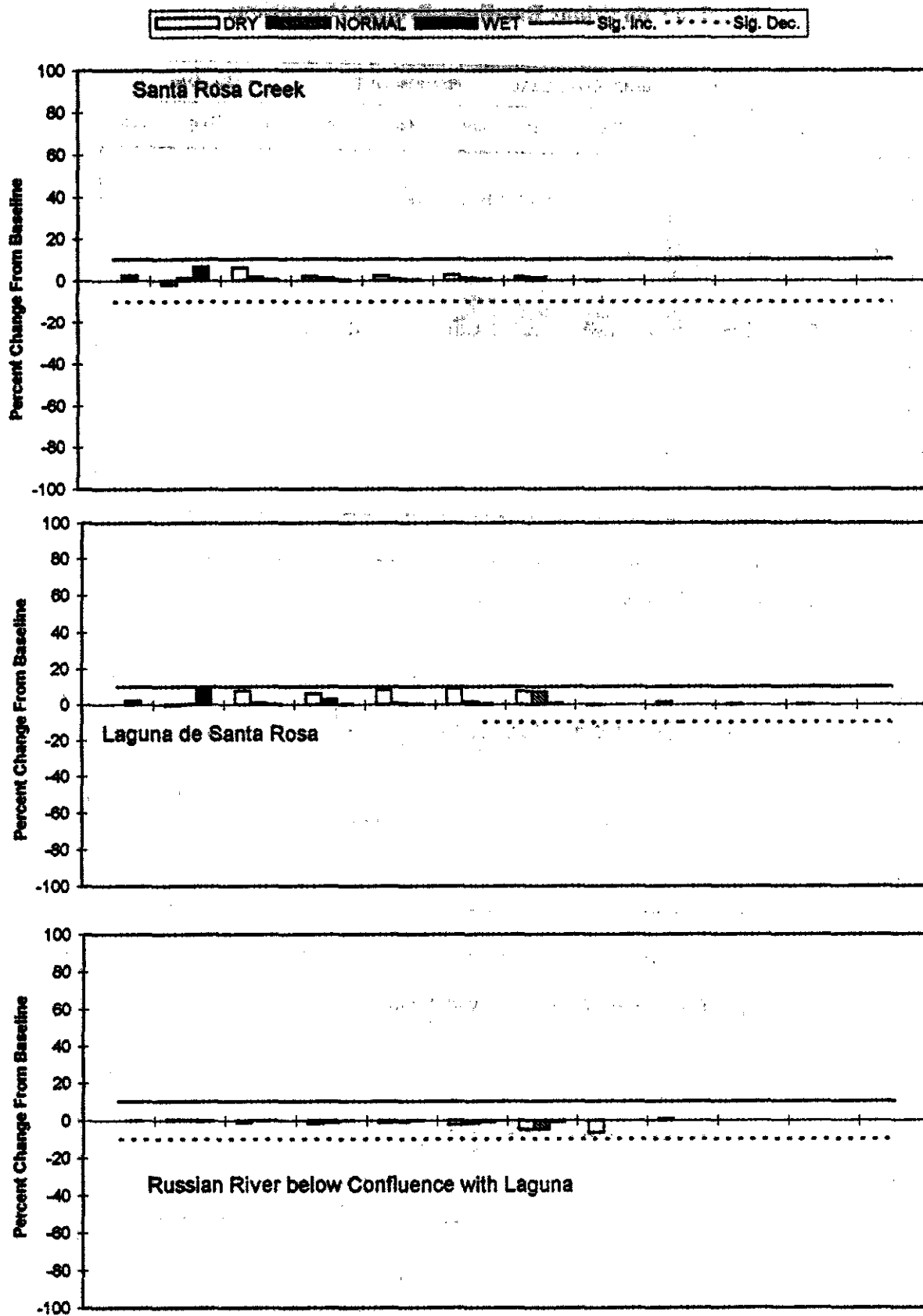


FIGURE 4-15. Discharge Impacts on Average Monthly Dissolved Oxygen - 1% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations

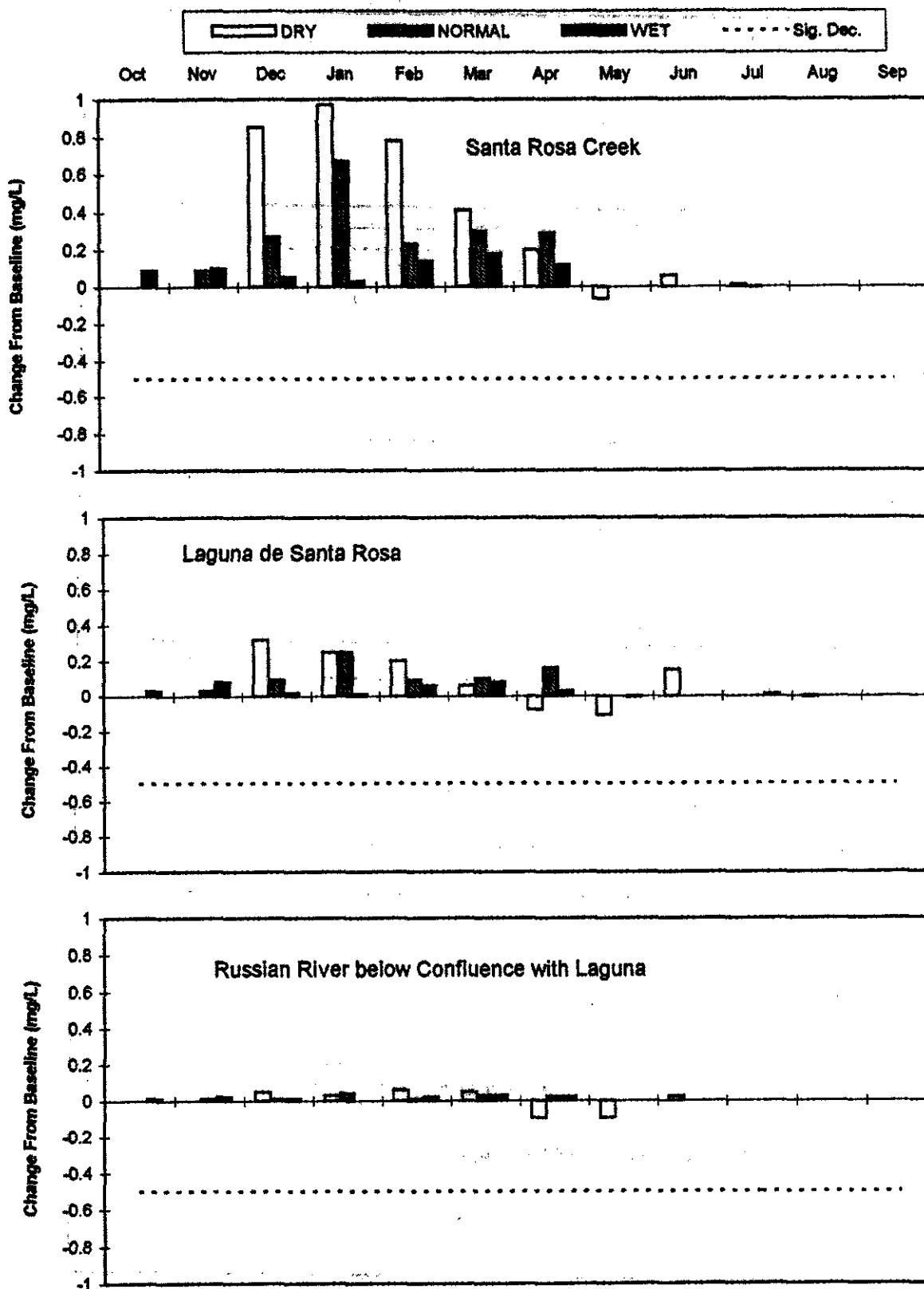


FIGURE 4-15. Discharge Impacts on Average Monthly Dissolved Oxygen - 5% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations

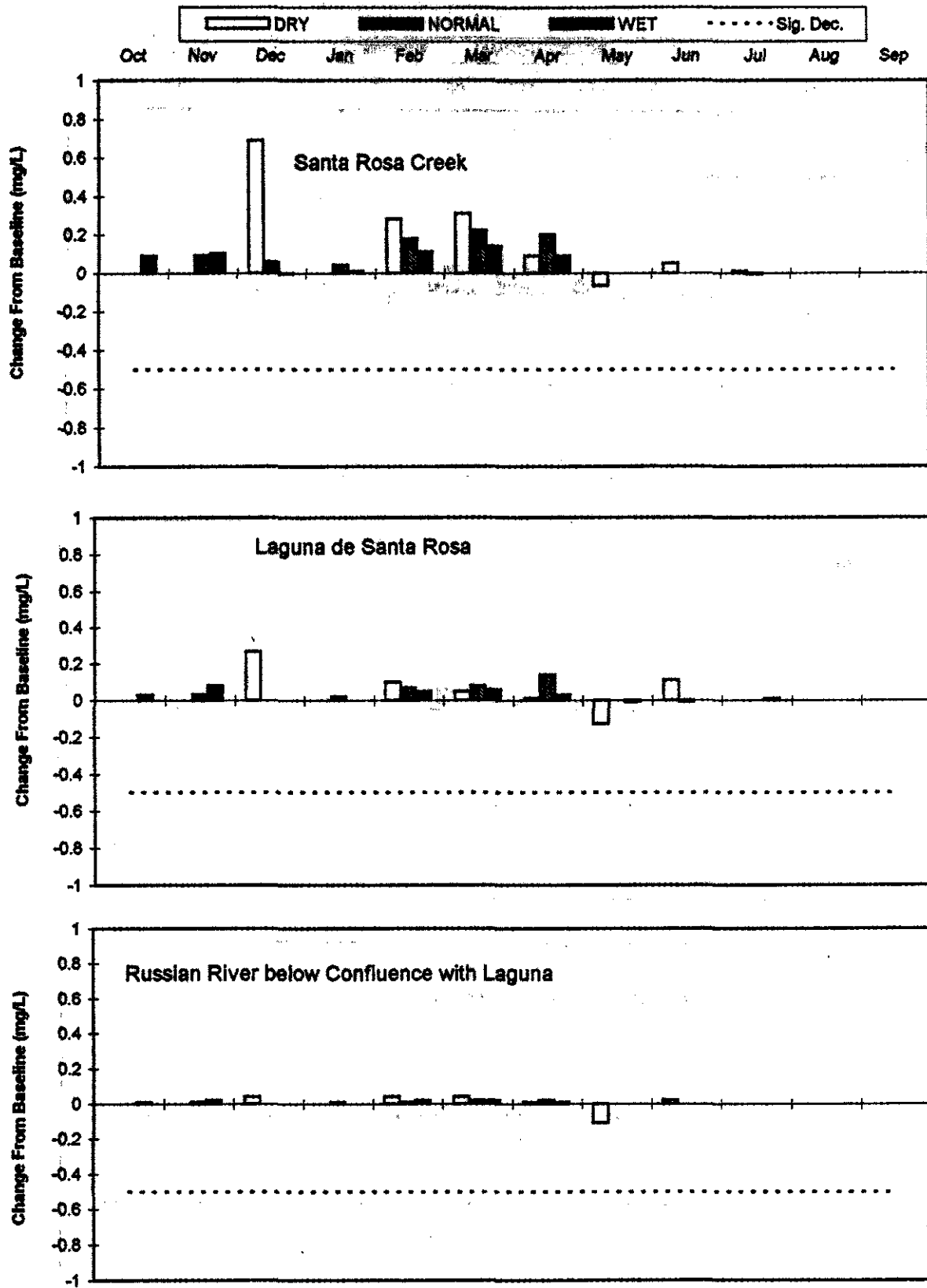


FIGURE 4-15. Discharge Impacts on Average Monthly Dissolved Oxygen - 10% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations

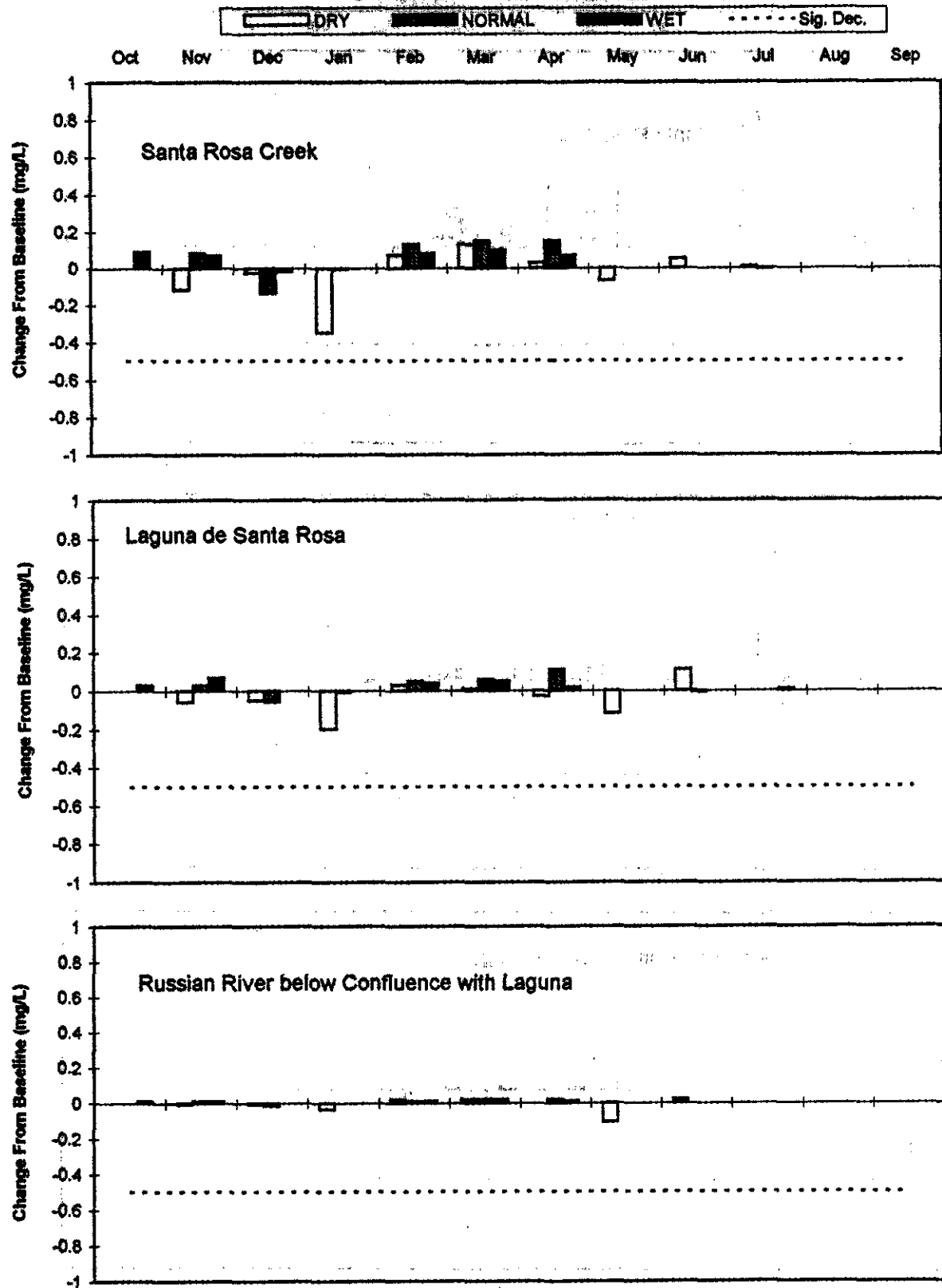


FIGURE 4-15. Discharge Impacts on Average Monthly Dissolved Oxygen - 20% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations

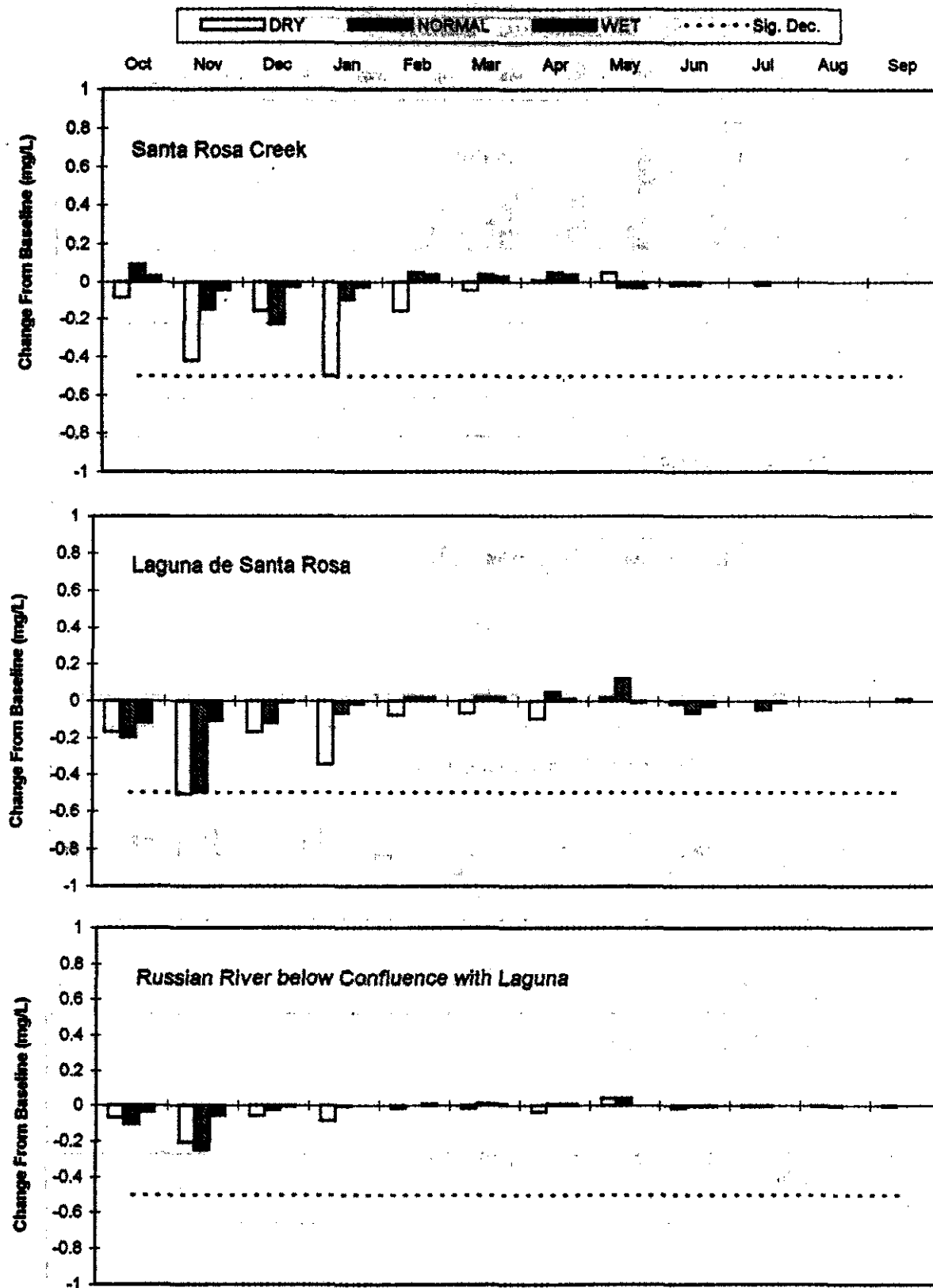


FIGURE 4-15. Discharge Impacts on Average Monthly Dissolved Oxygen - 20% Discharge to the Russian River
Existing Conditions Baseline - Project Operations

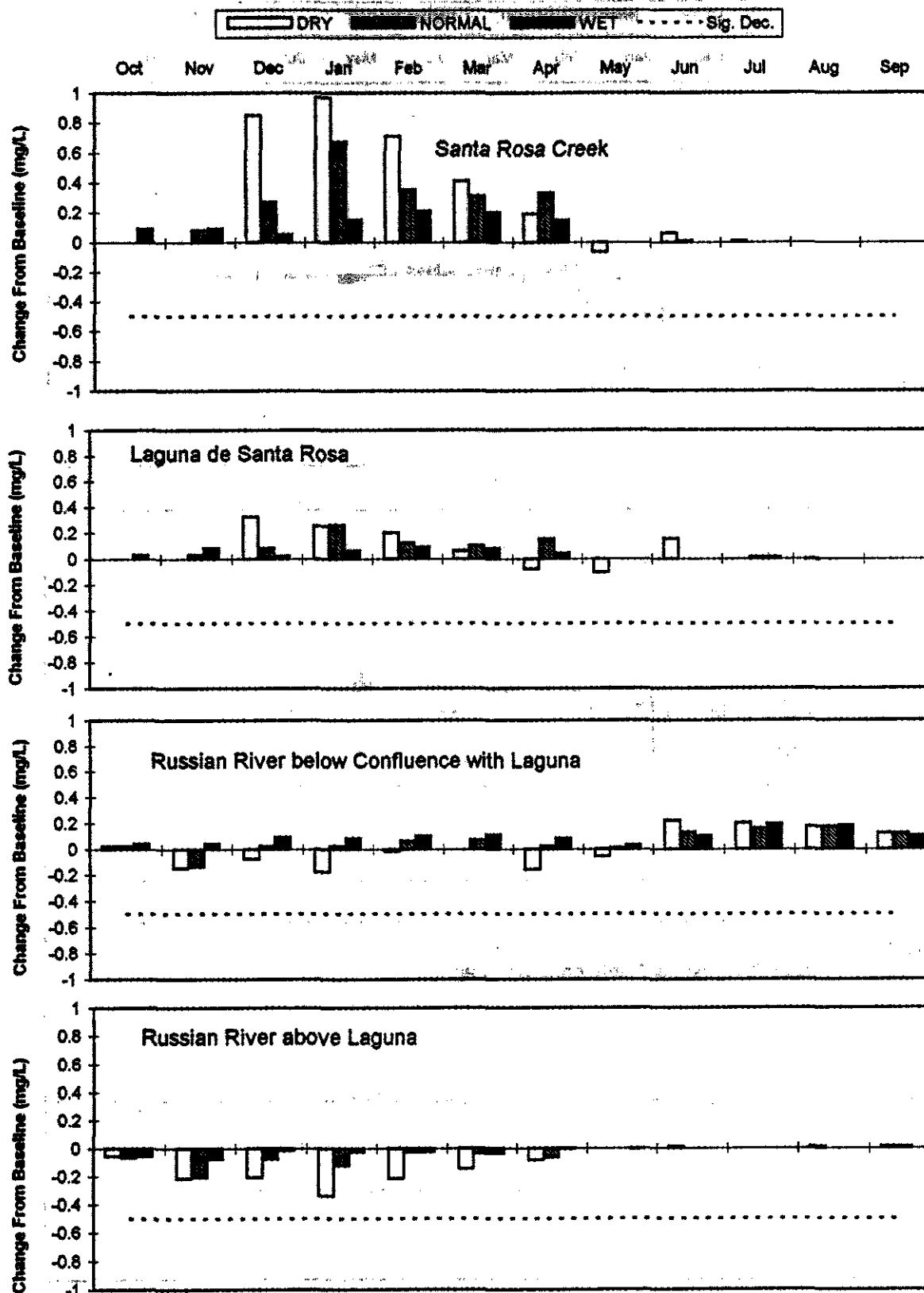
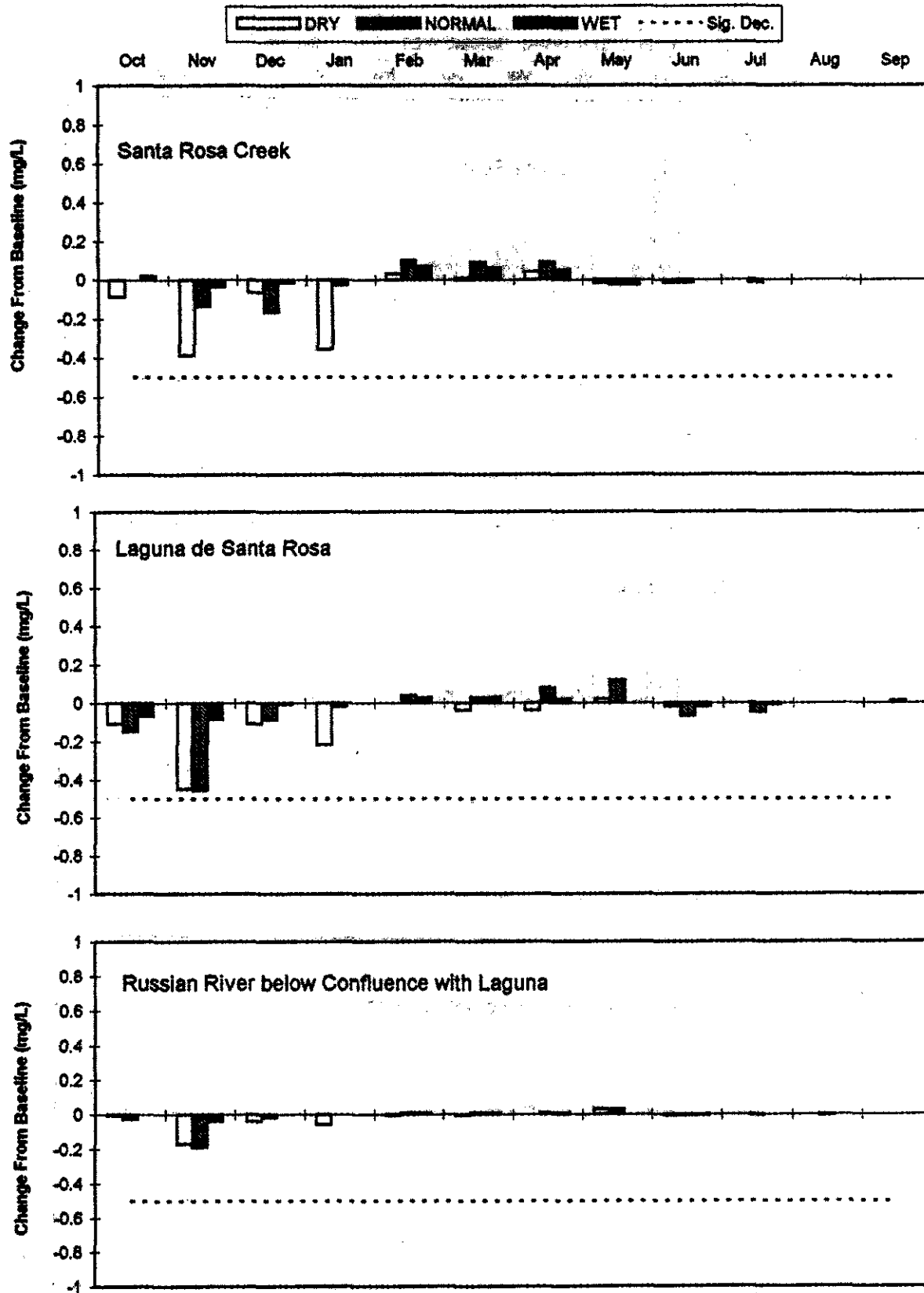
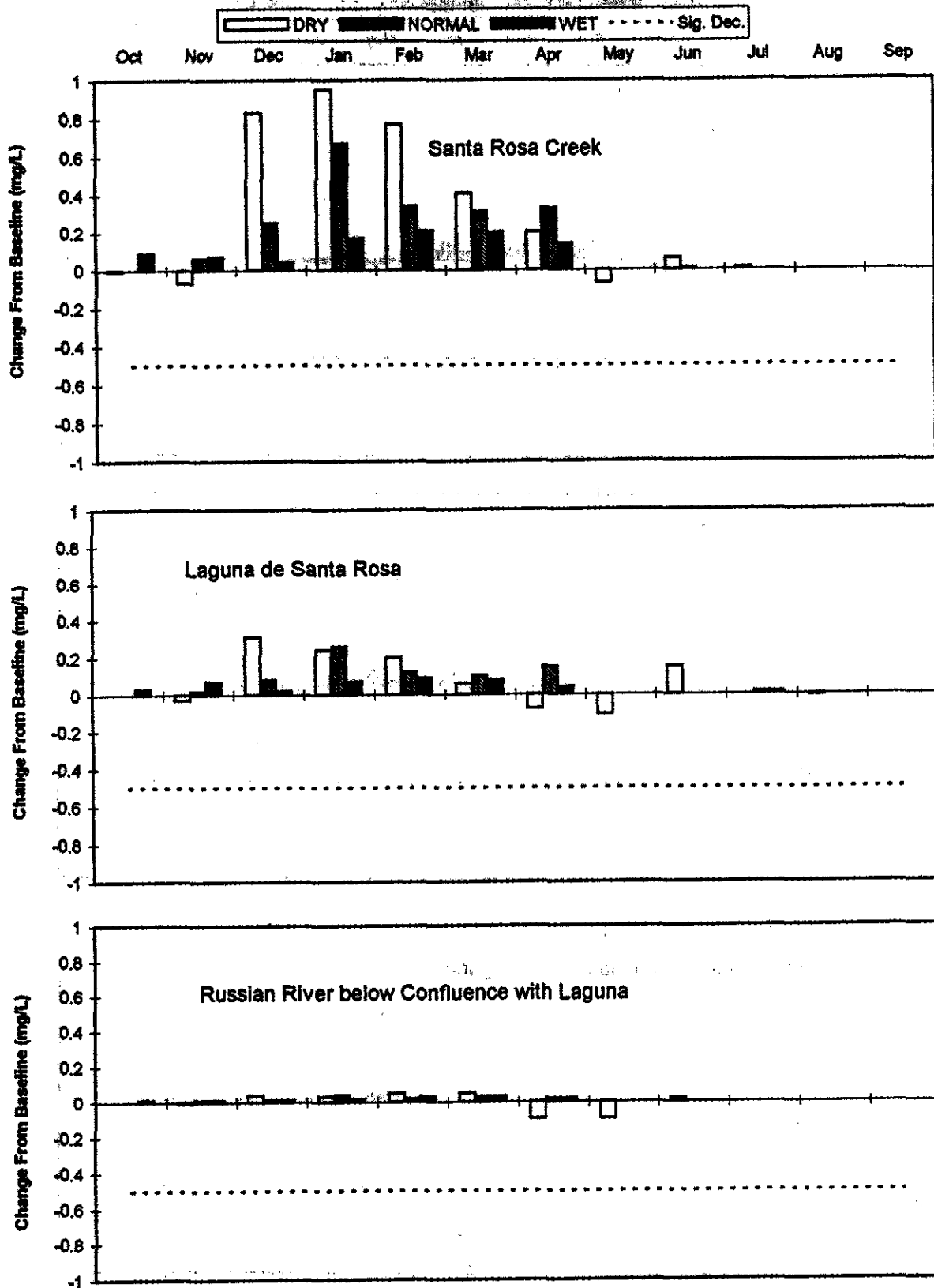


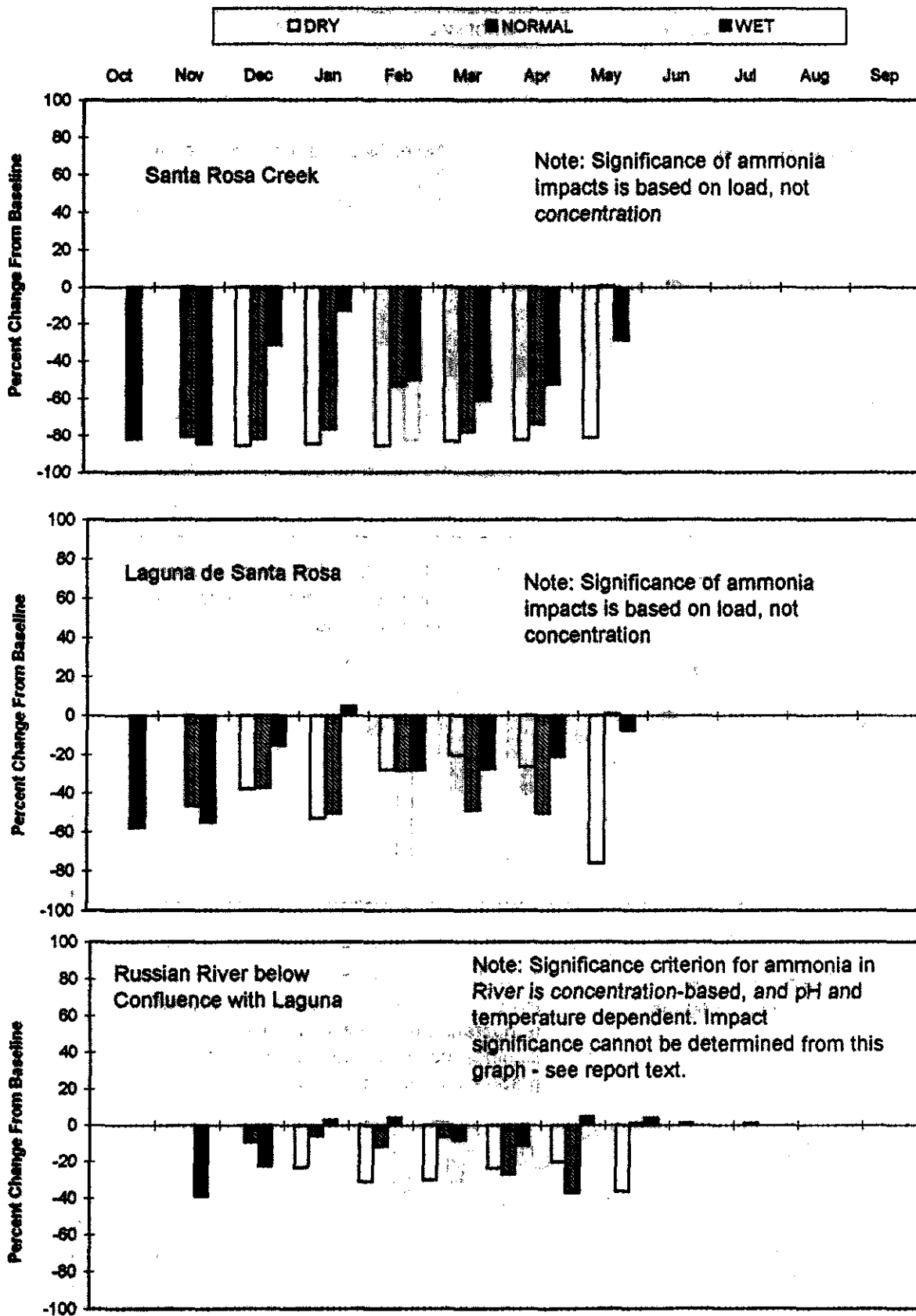
FIGURE 4-15. Discharge Impacts on Average Monthly Dissolved Oxygen - No Project Existing Conditions Baseline - Project Operations



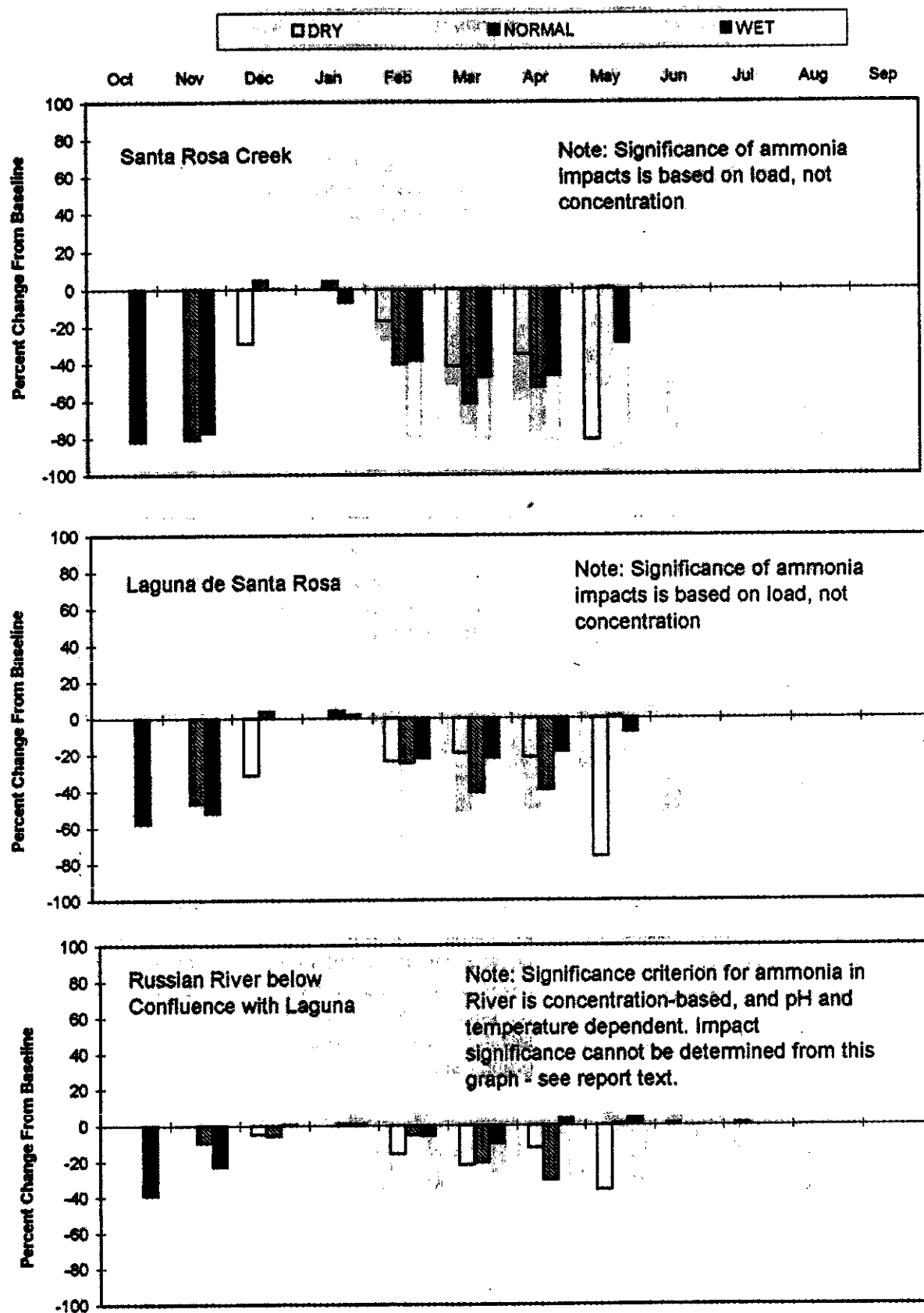
**FIGURE 4-15. Discharge Impacts on Average Monthly Dissolved Oxygen - Geysers
Existing Conditions - Project Operations**



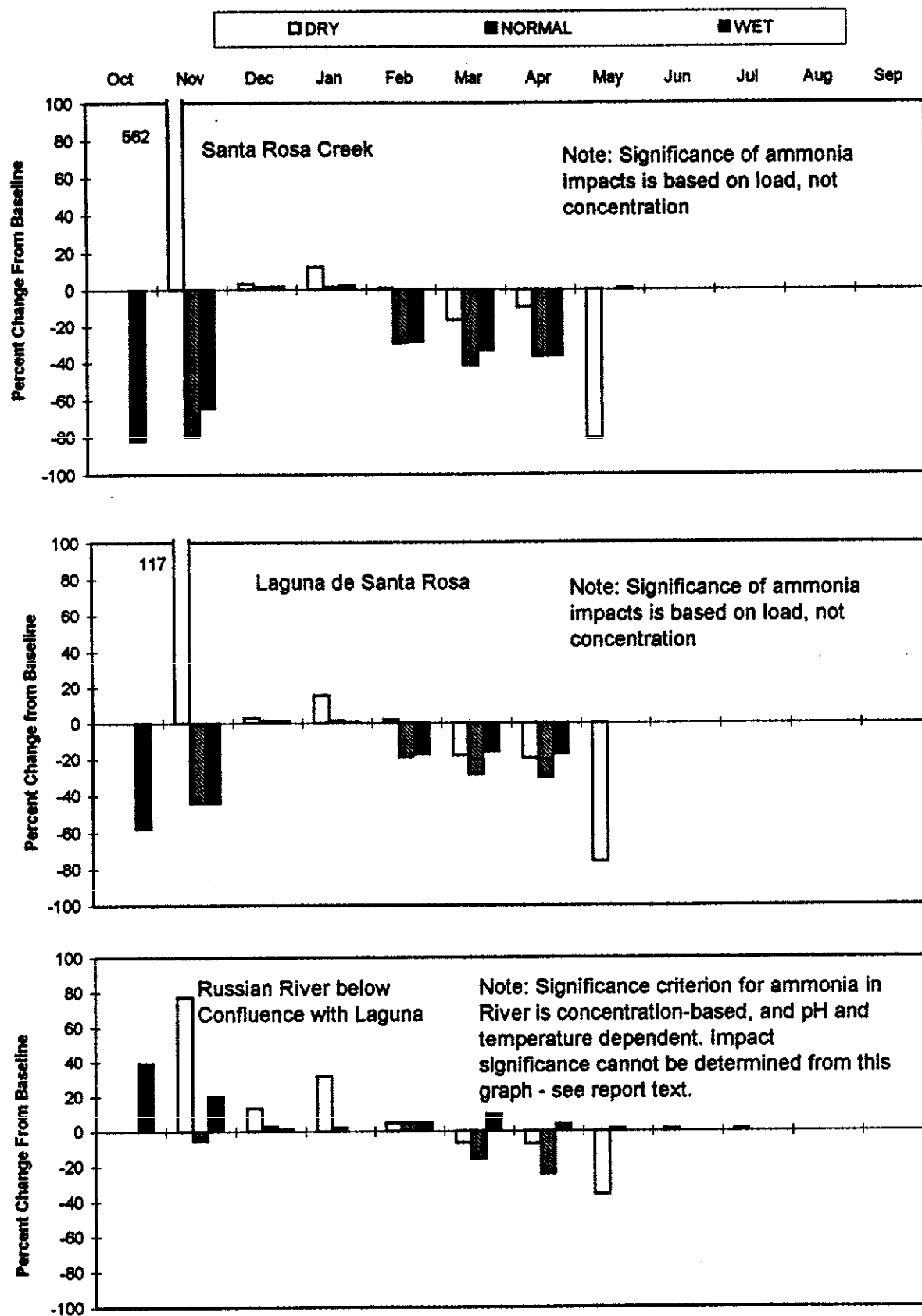
**Figure 4-16. Discharge Impacts on Ammonia - 1% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations**



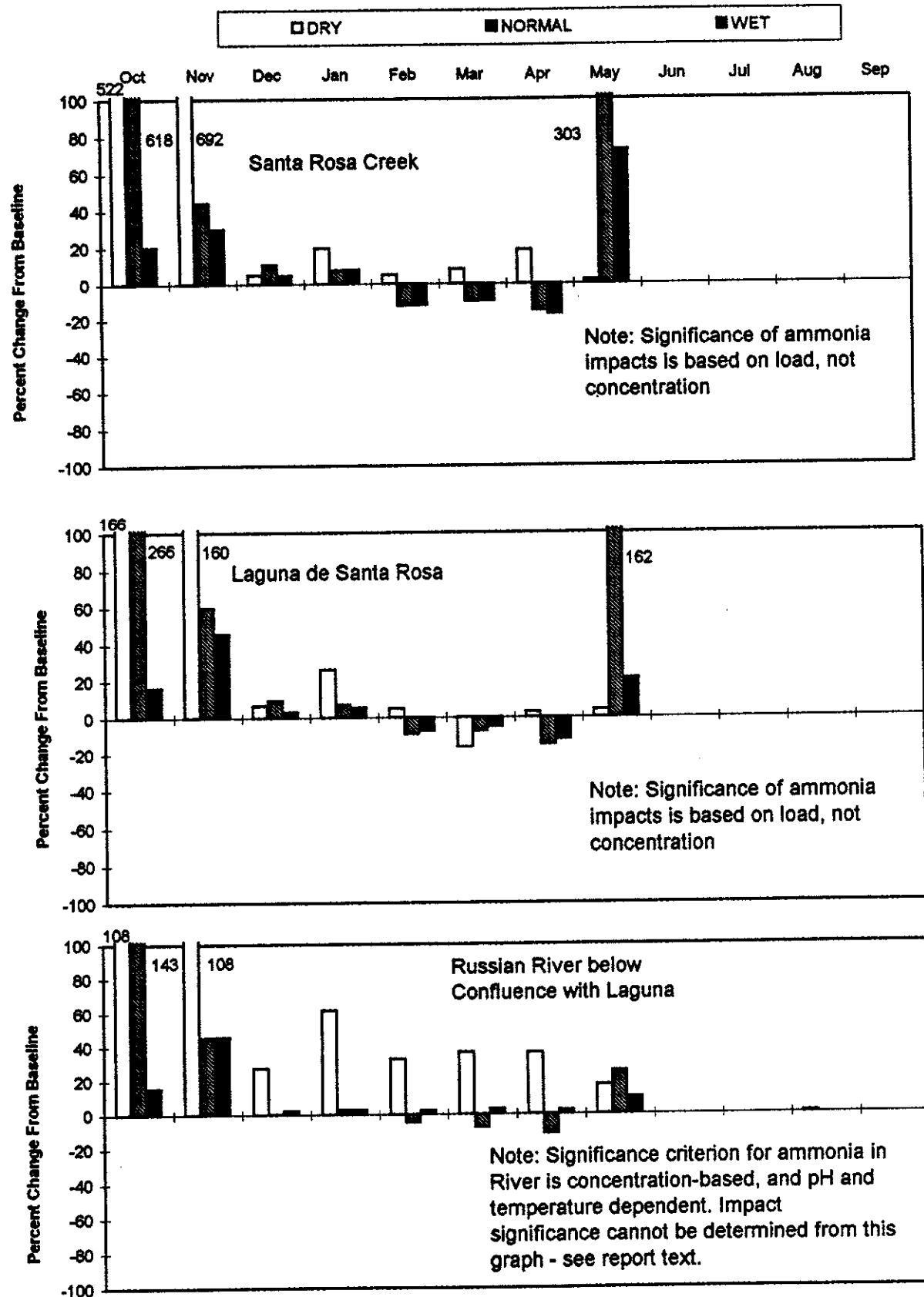
**Figure 4-16. Discharge Impacts on Ammonia - 5% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations**



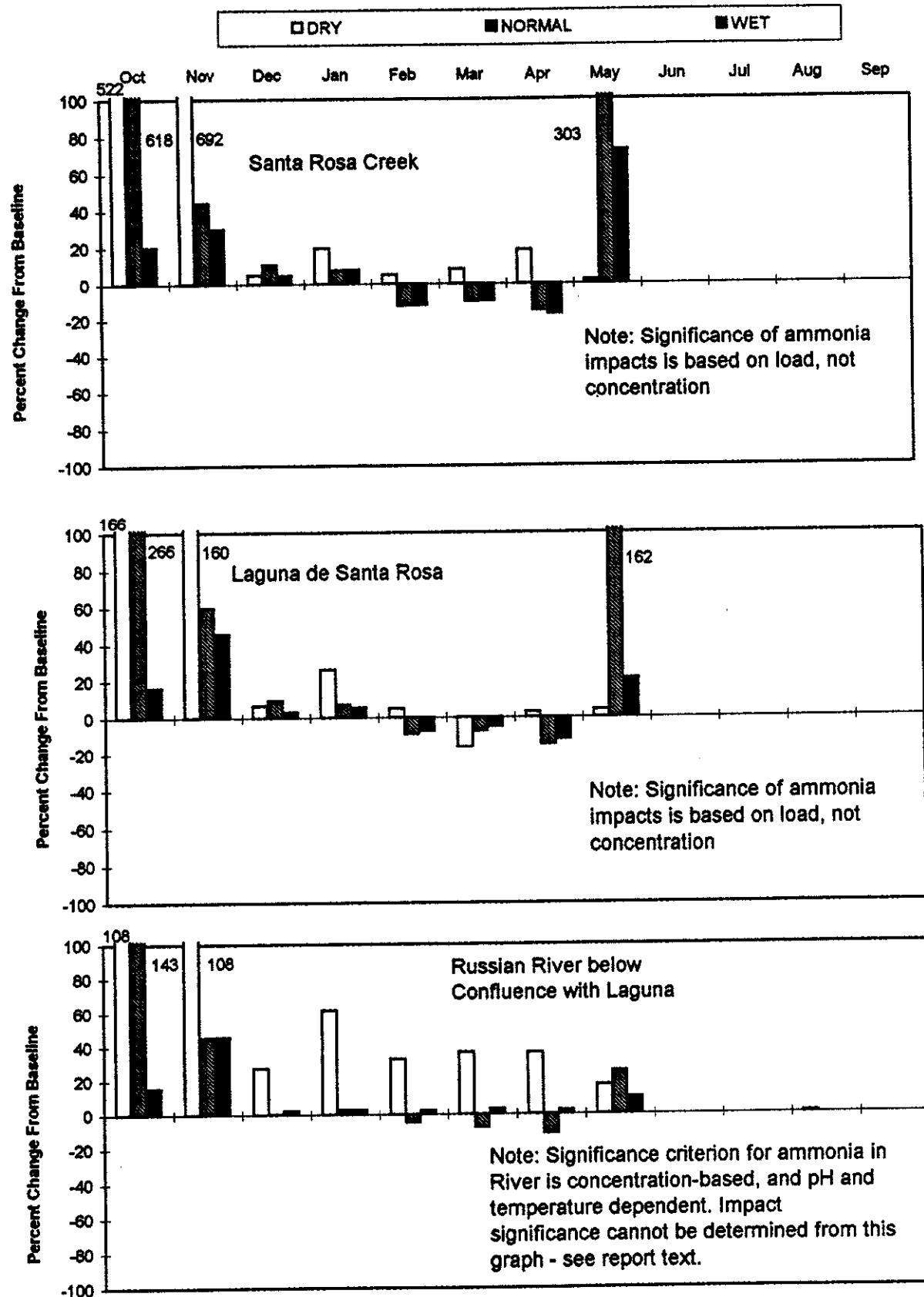
**Figure 4-16. Discharge Impacts on Ammonia - 10% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations**



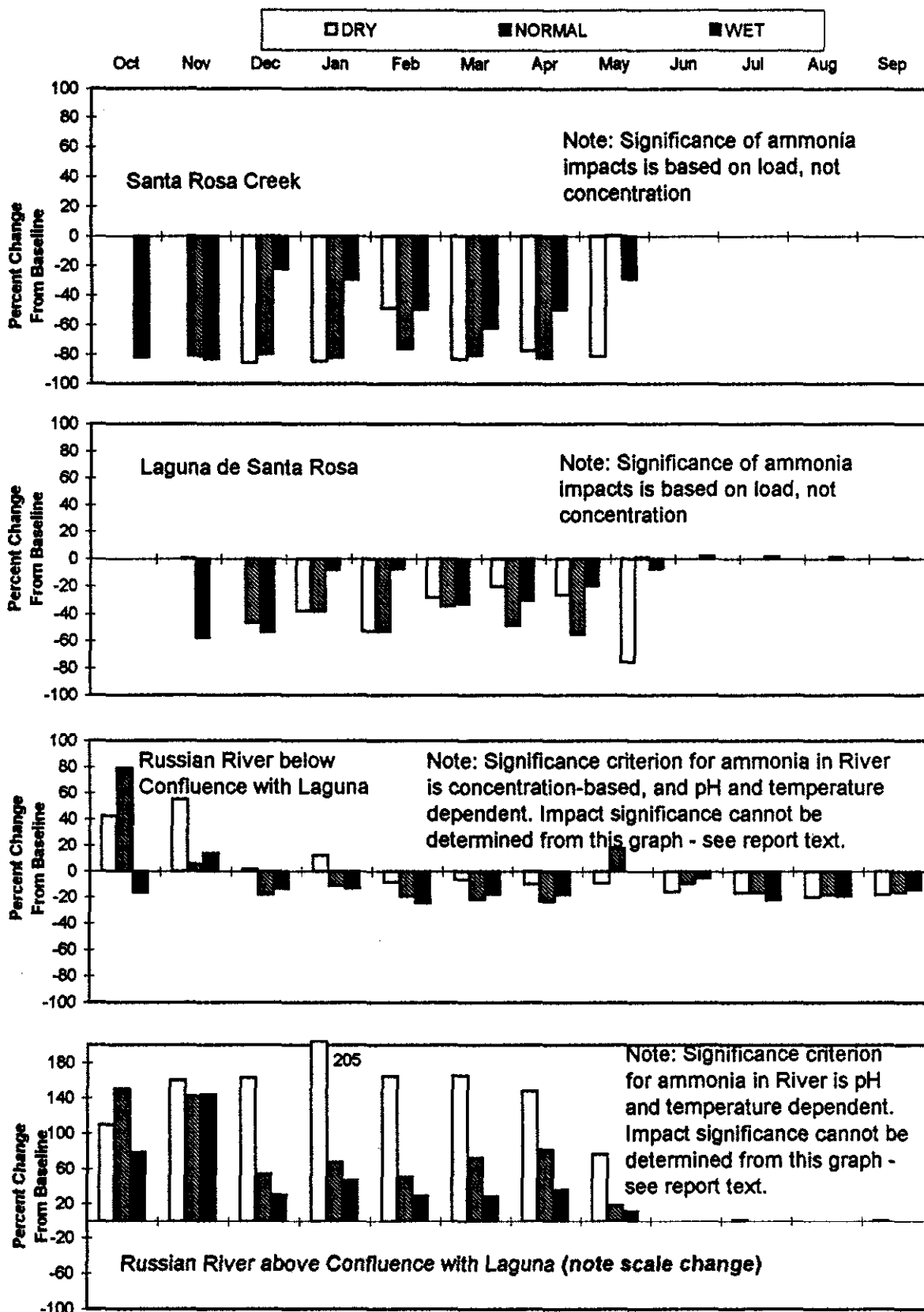
**Figure 4-16. Discharge Impacts on Ammonia - 20% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations**



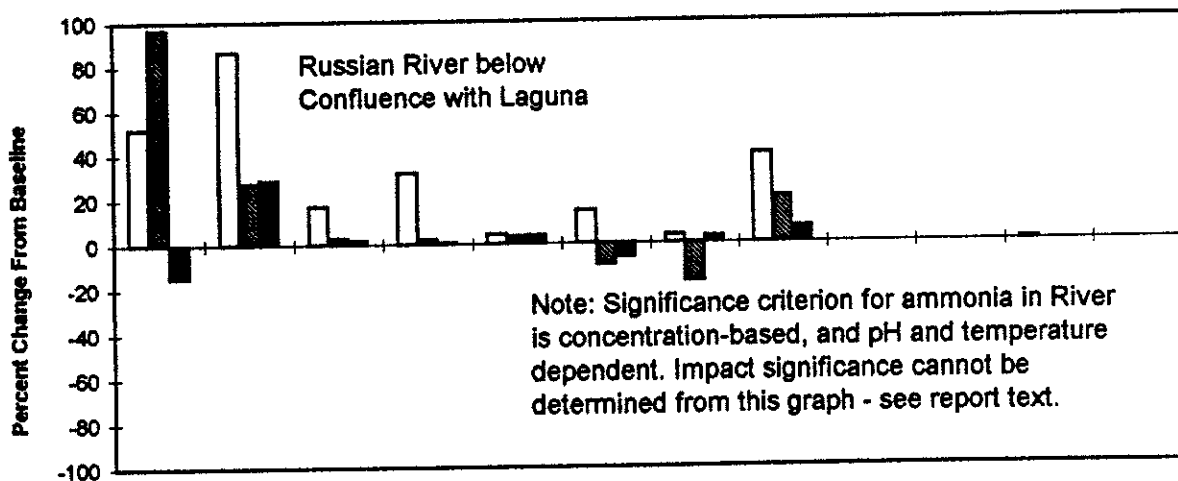
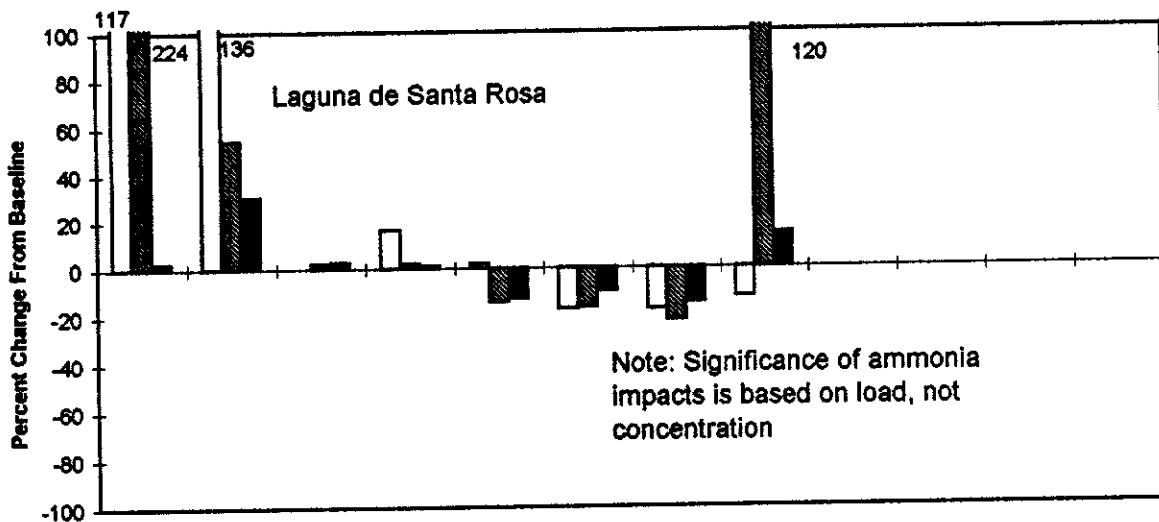
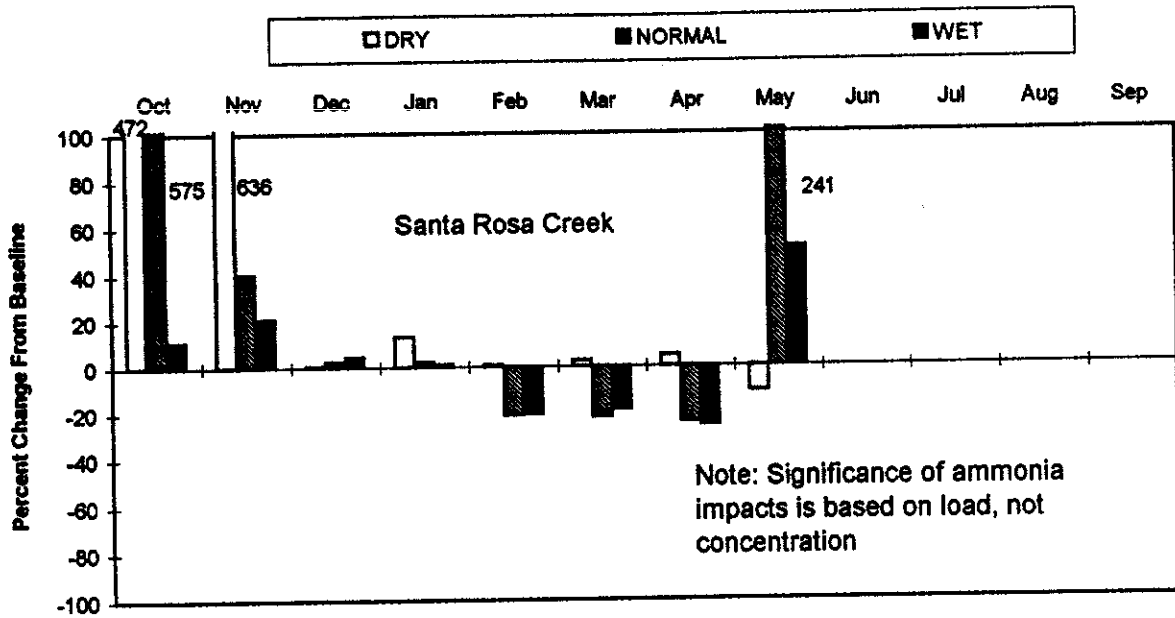
**Figure 4-16. Discharge Impacts on Ammonia - 20% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations**



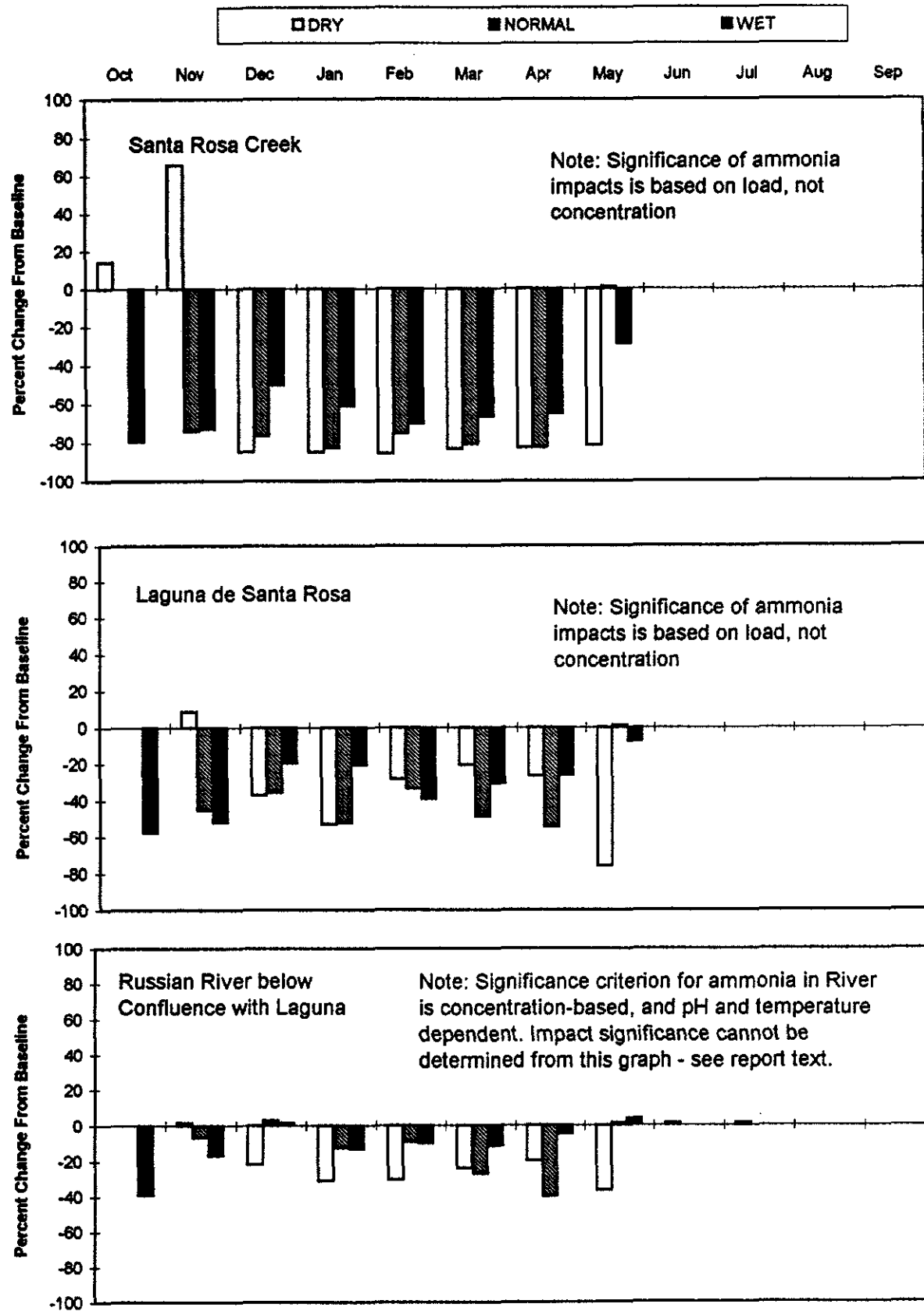
**Figure 4-16. Discharge Impacts on Ammonia - 20% to Russian River
Existing Conditions Baseline - Project Operations**



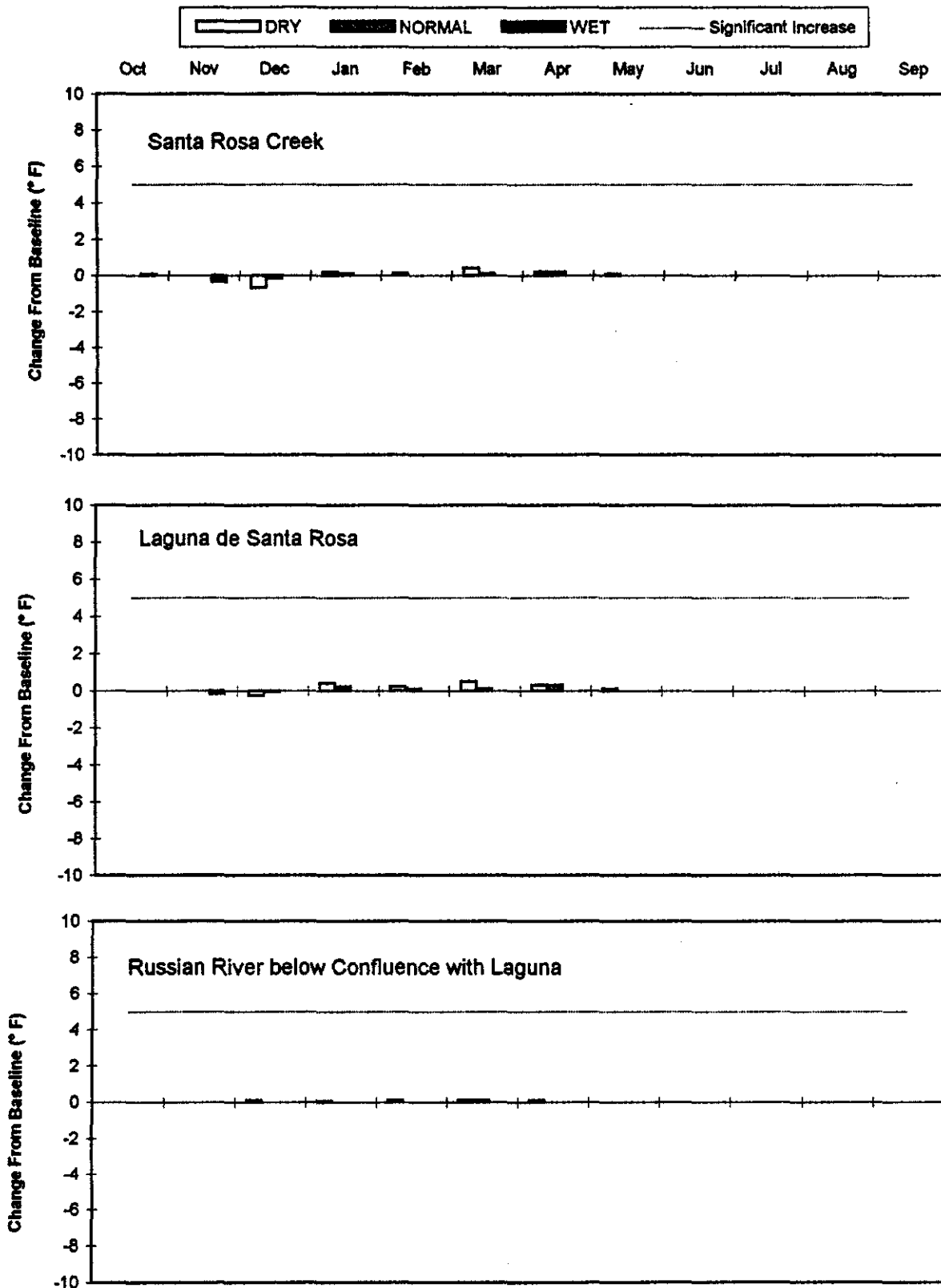
**Figure 4-16. Discharge Impacts on Ammonia - No Project
Existing Conditions Baseline - Project Operations**



**Figure 4-16. Discharge Impacts on Ammonia - Geysers
Existing Conditions Baseline - Project Operations**



**FIGURE 4-17. Discharge Impacts on Average Monthly Temperature - 1% Discharge to the
Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations**



**FIGURE 4-17. Discharge Impacts on Average Monthly Temperature - 5% Discharge to the
Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations**

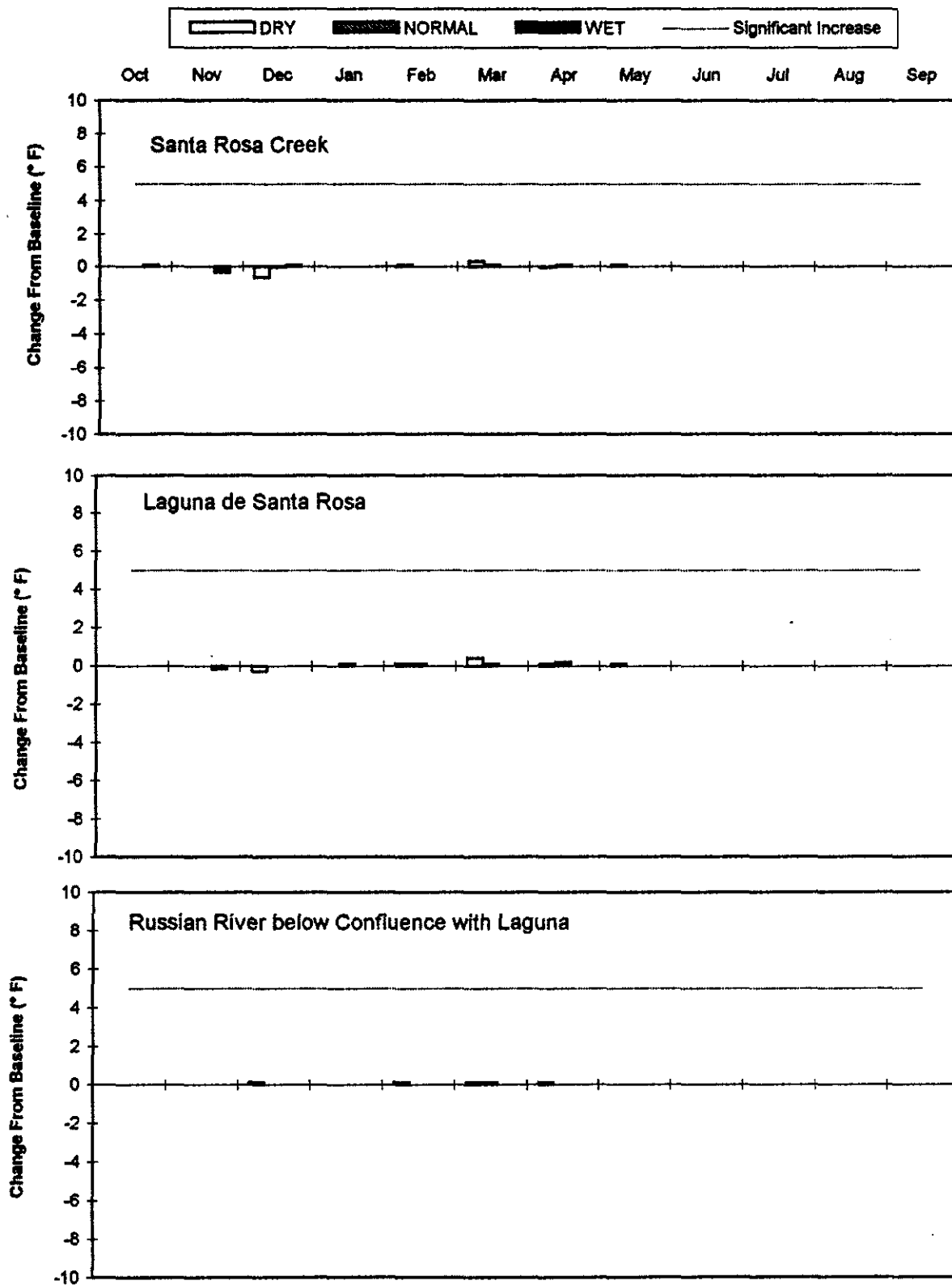


FIGURE 4-17. Discharge Impacts on Average Monthly Temperature - 10% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations

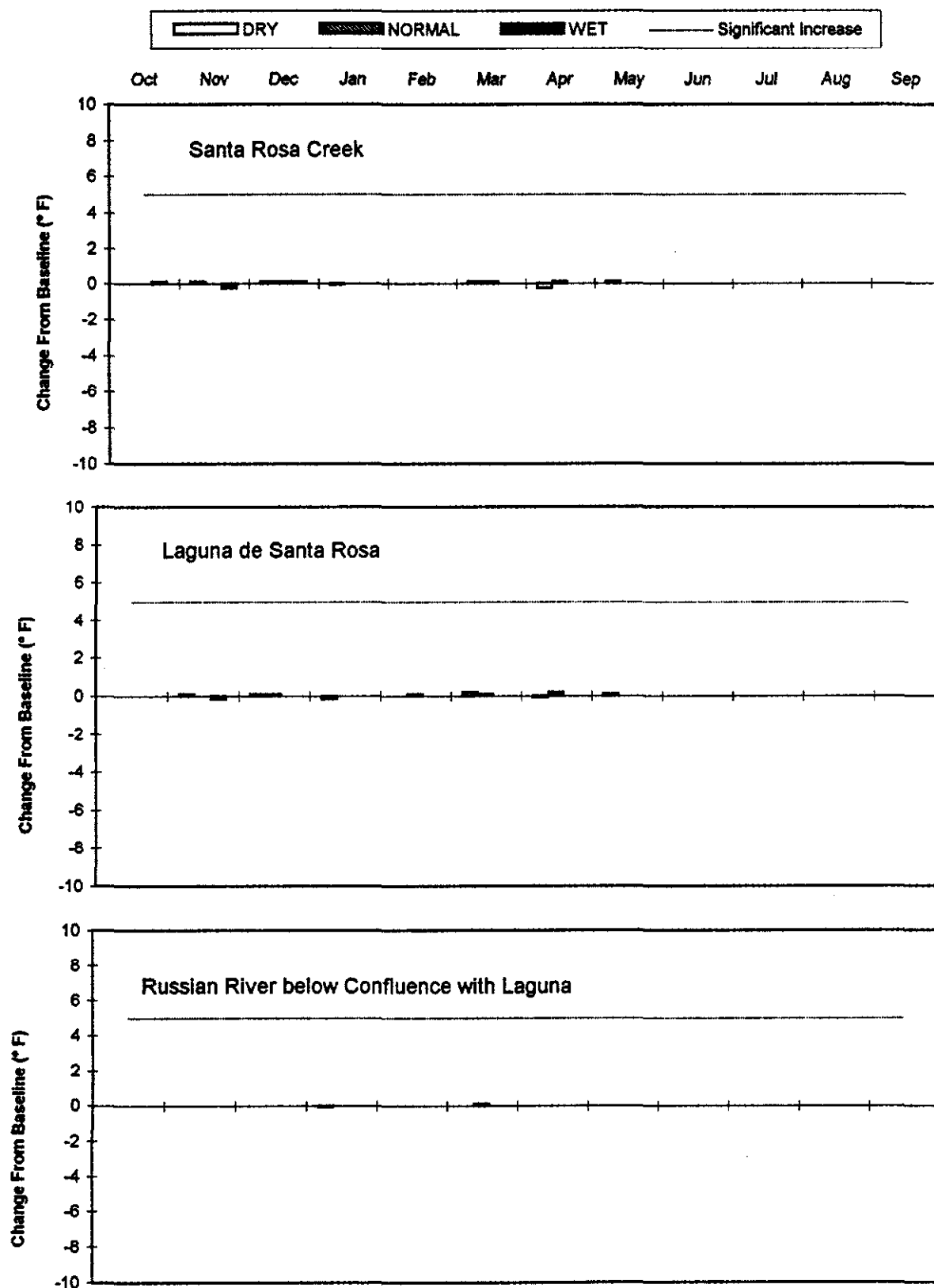
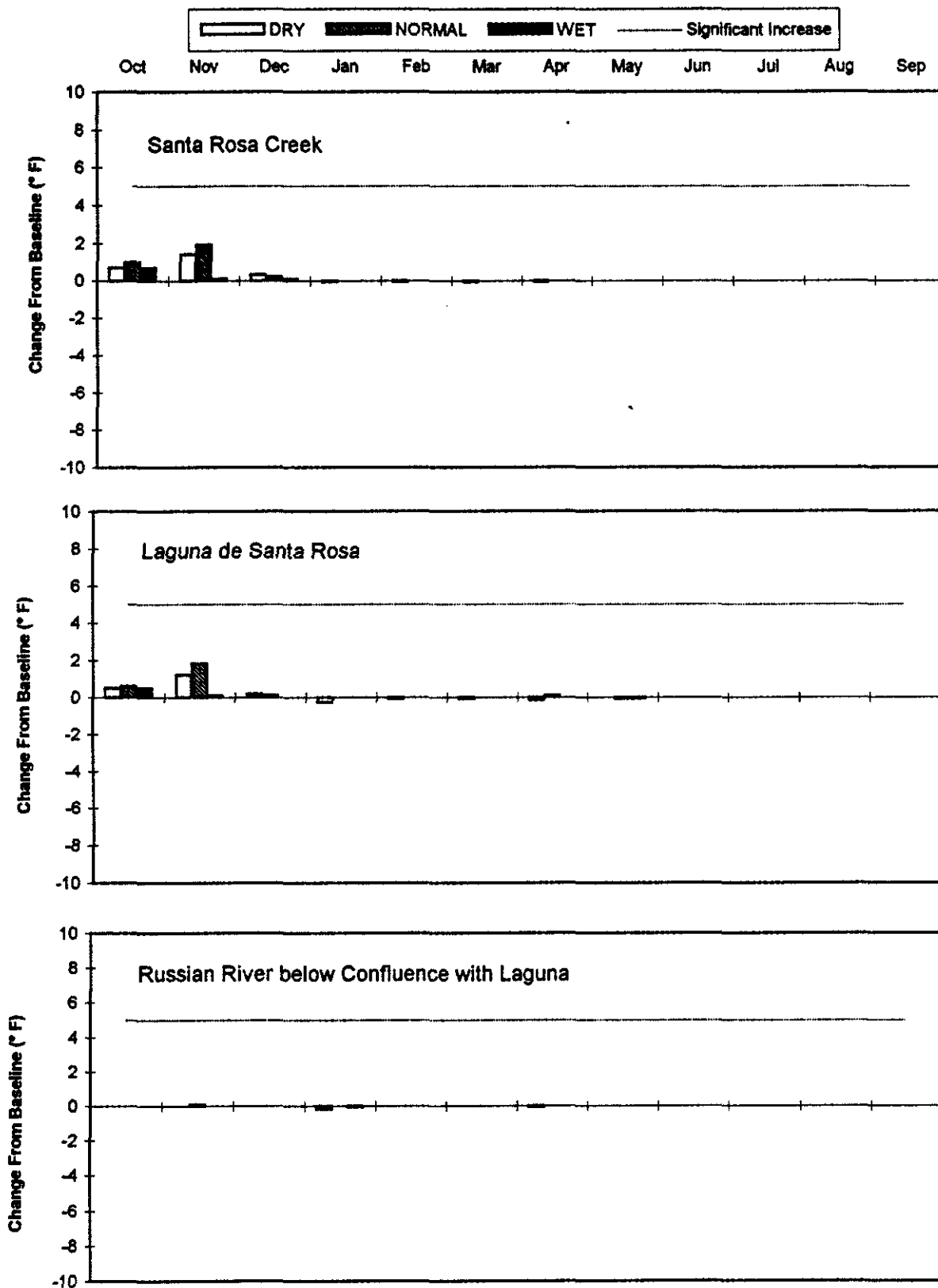


FIGURE 4-17. Discharge Impacts on Average Monthly Temperature - 20% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project Operations



**FIGURE 4-17. Discharge Impacts on Average Monthly Temperature - 20 % to the Russian River
Existing Conditions Baseline - Project Operations**

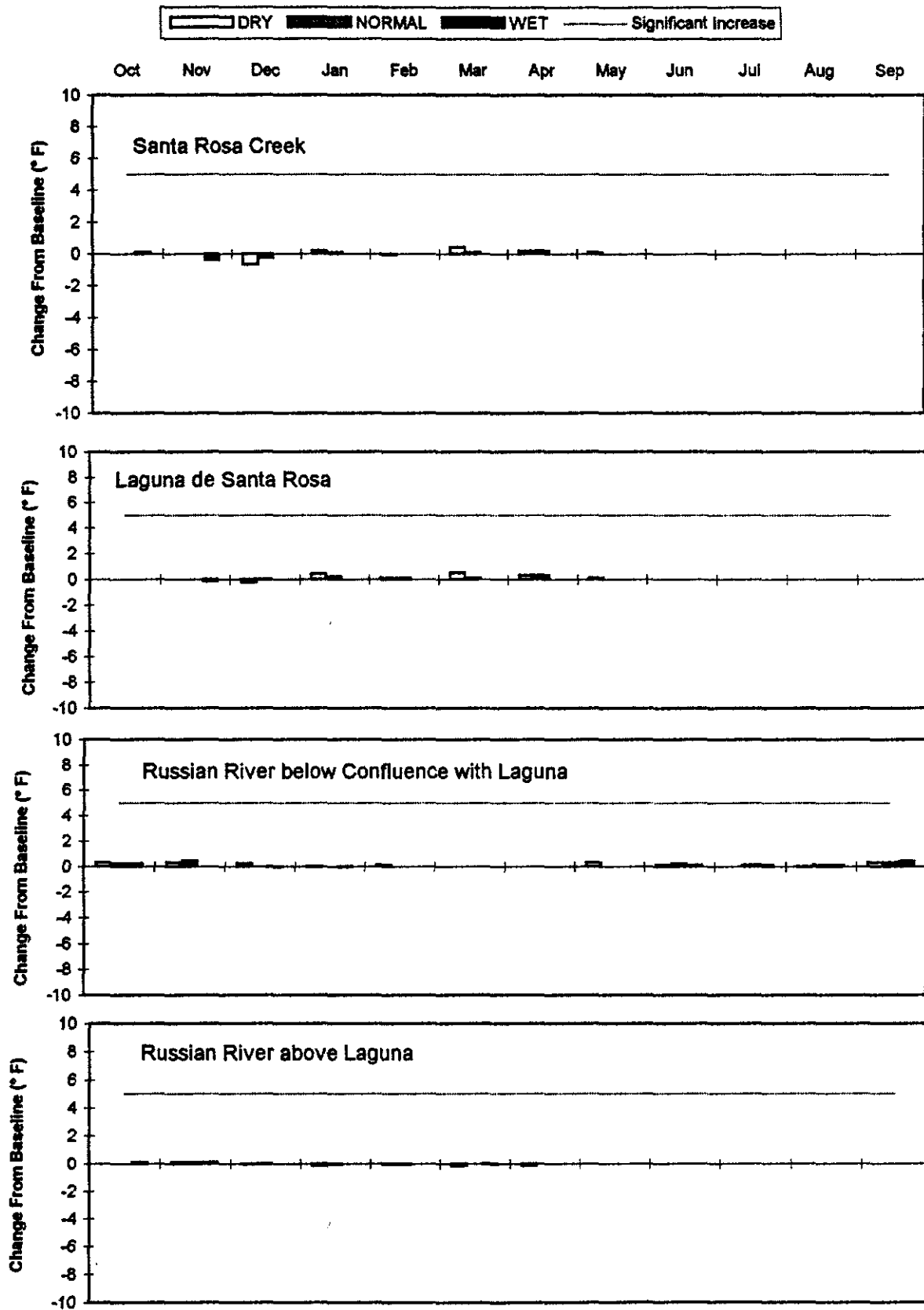


FIGURE 4-17. Discharge Impacts on Average Monthly Temperature - No Project Existing Conditions Baseline - Project Operations

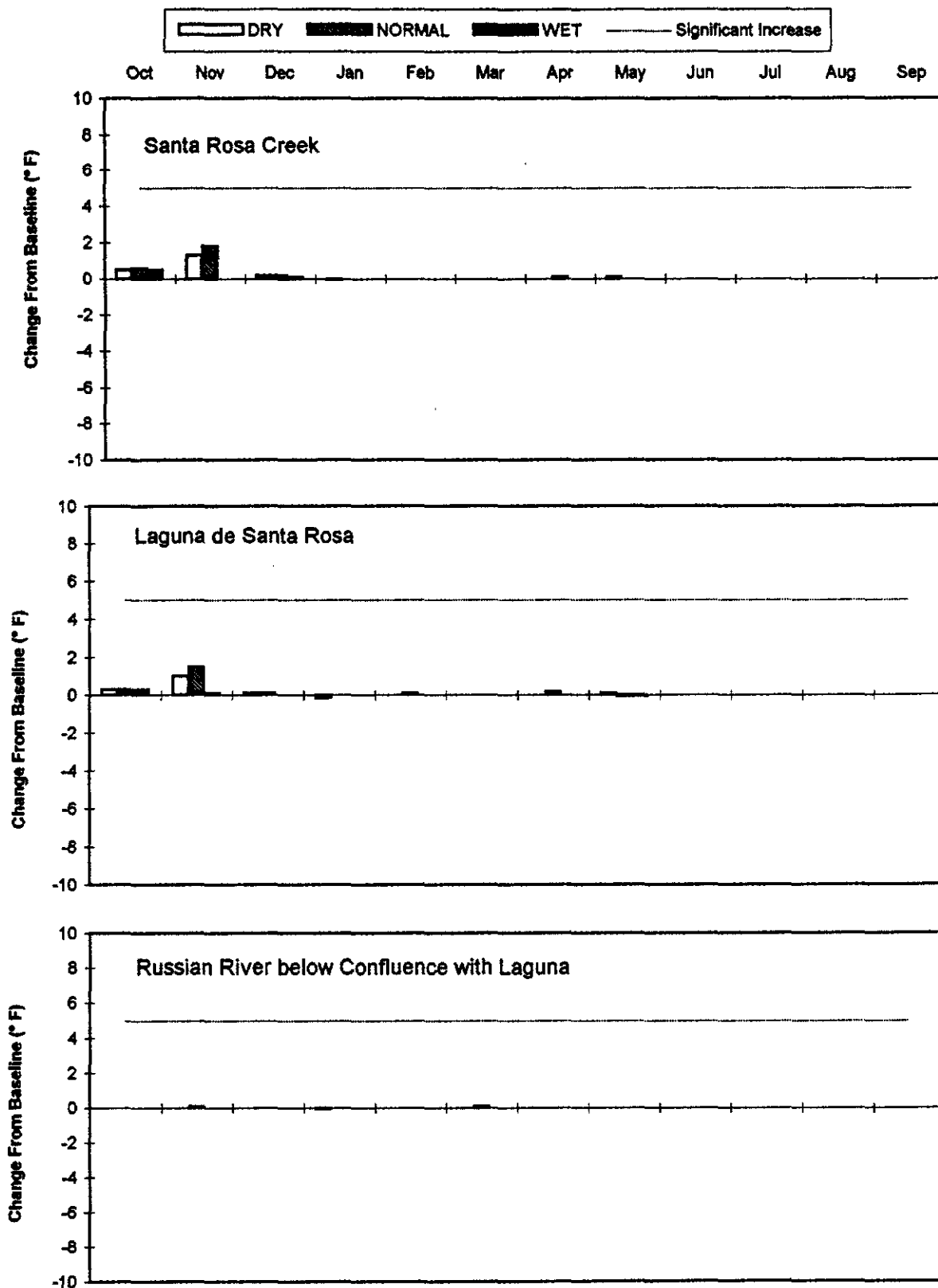
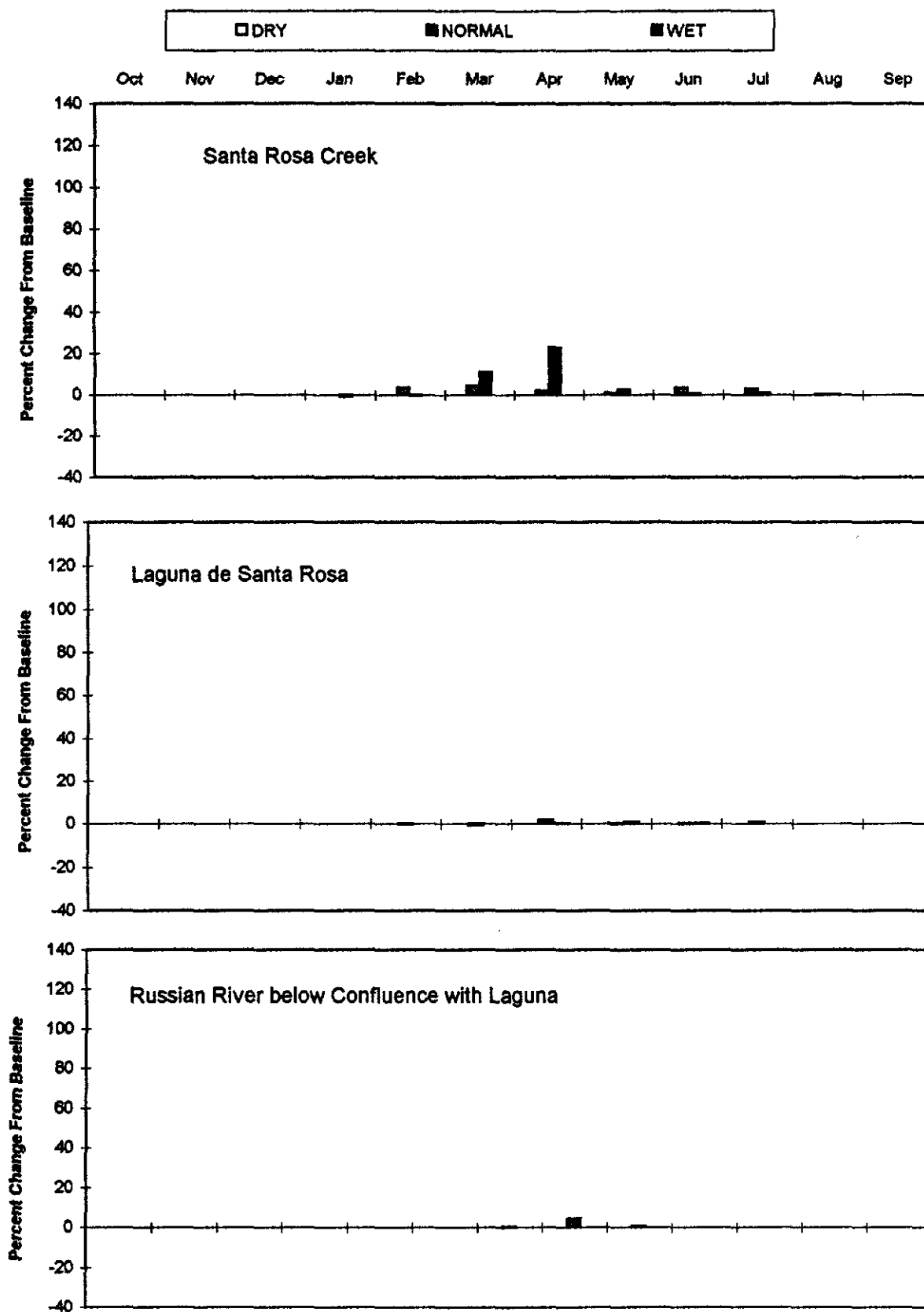
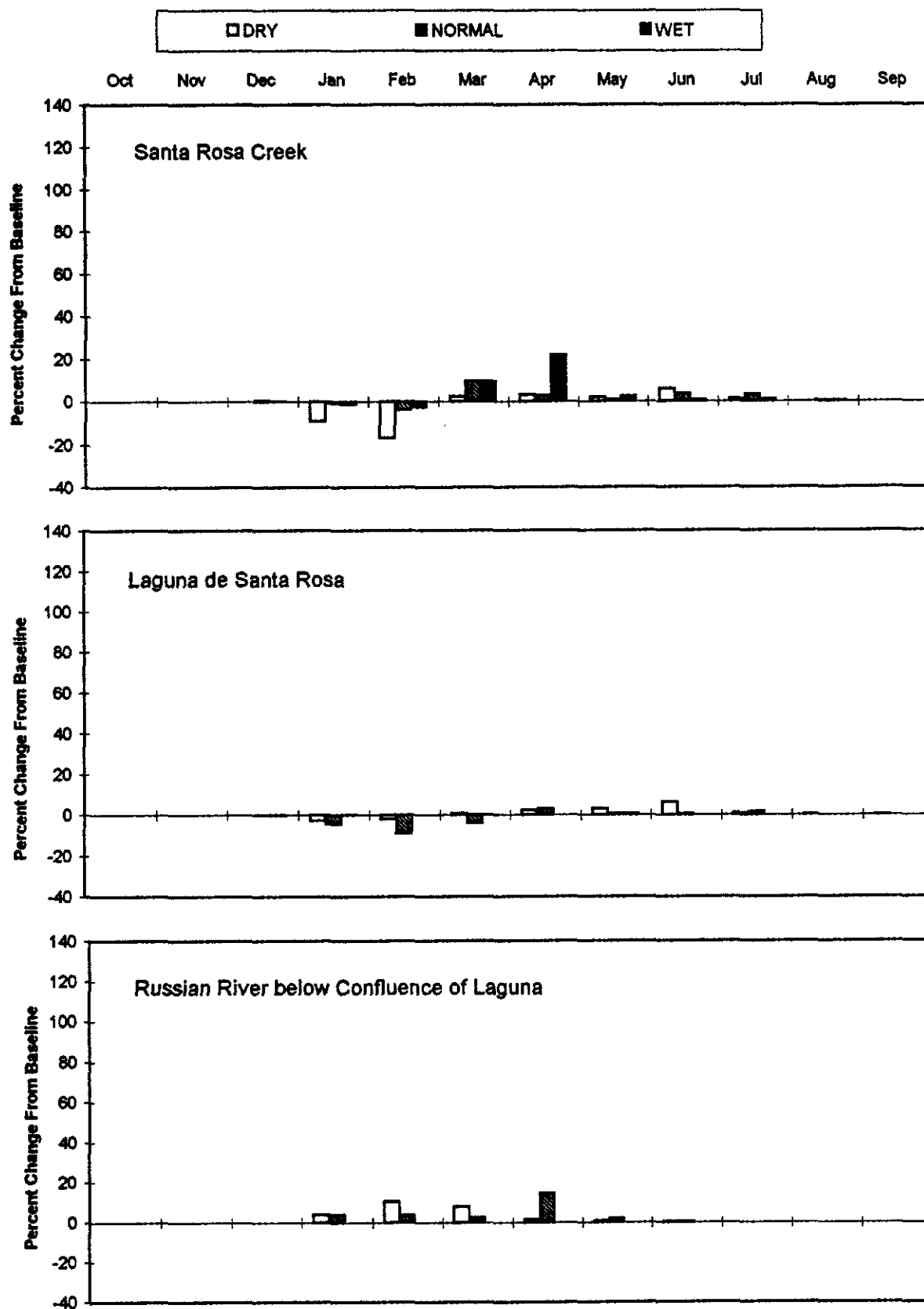


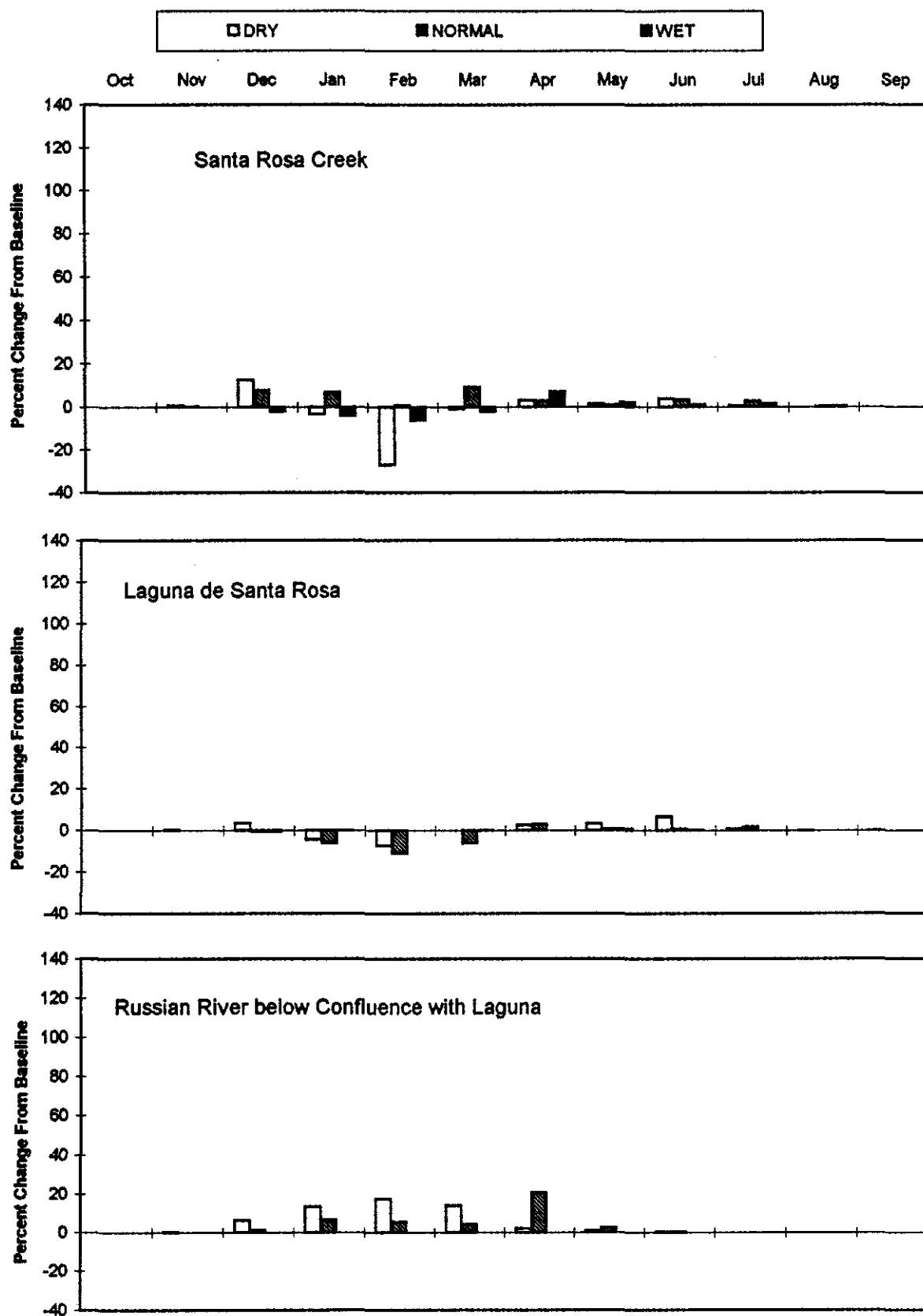
Figure 4-18. Discharge Impacts on Benthic Algae - 1% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations



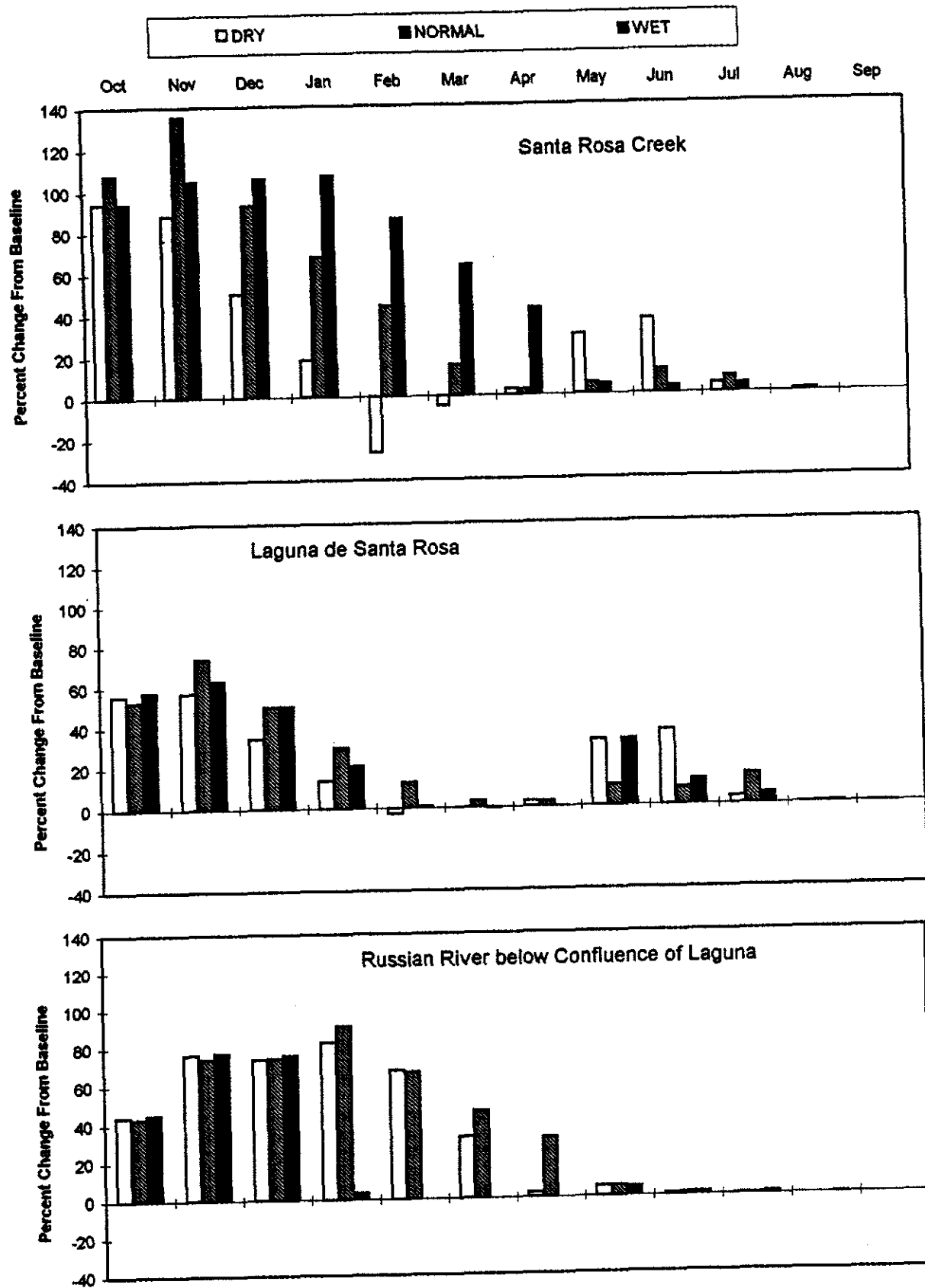
**Figure 4-18. Discharge Impacts on Benthic Algae - 5% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations**



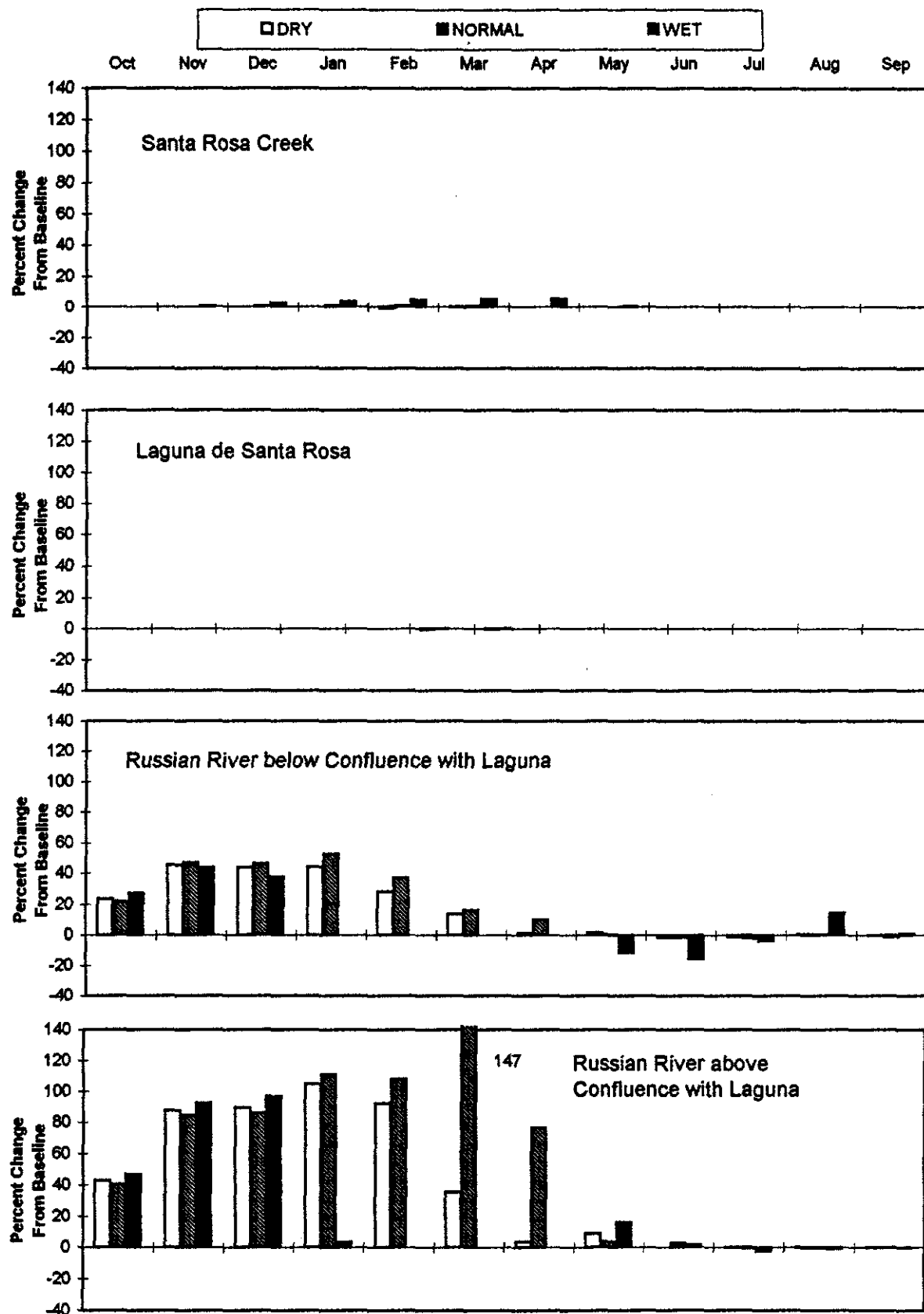
**Figure 4-18. Discharge Impacts on Benthic Algae - 10% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations**



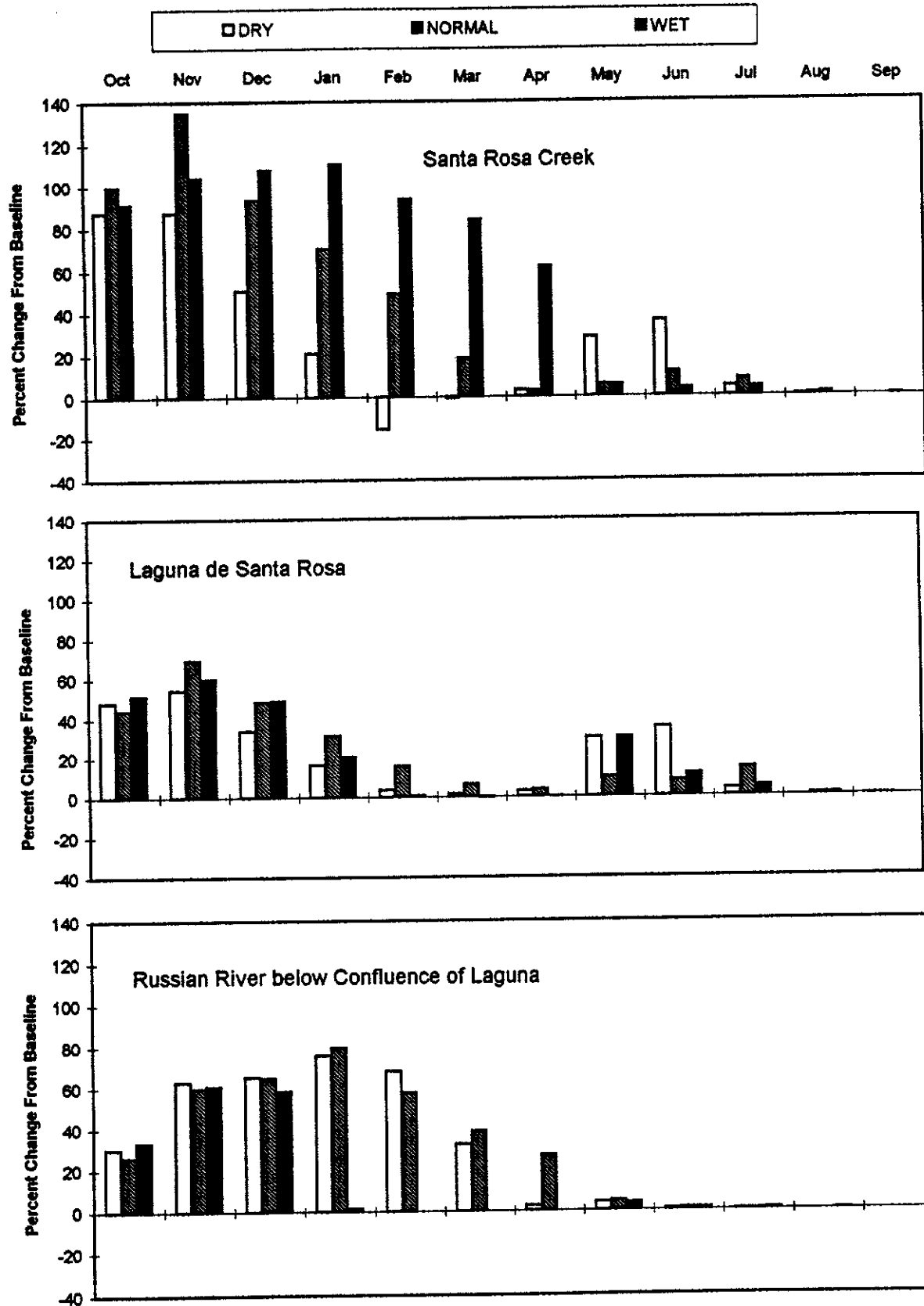
**Figure 4-18. Discharge Impacts on Benthic Algae - 20% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations**



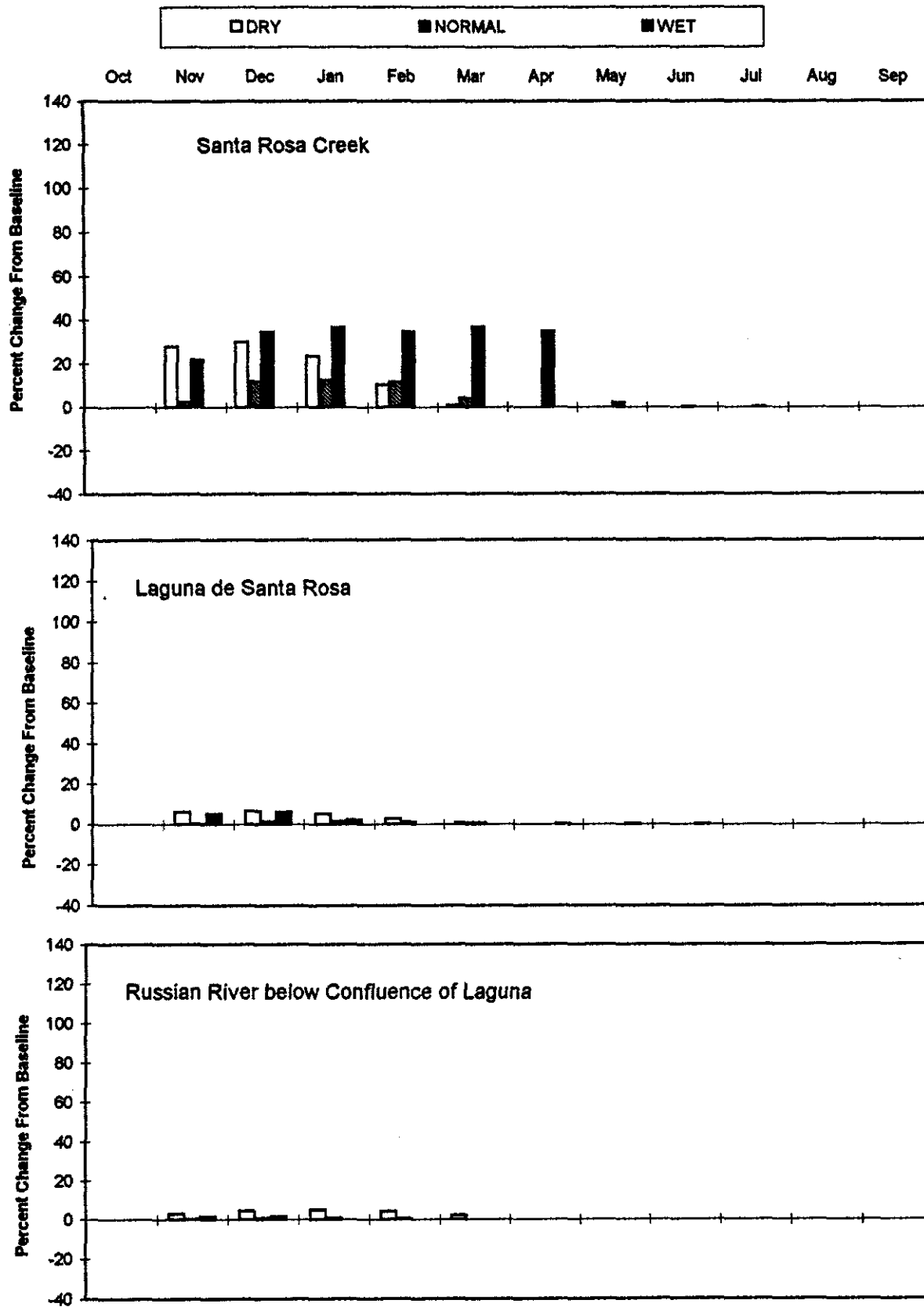
**Figure 4-18. Discharge Impacts on Benthic Algae - 20% Discharge to the Russian River
Zero Discharge Baseline - Project Operations**



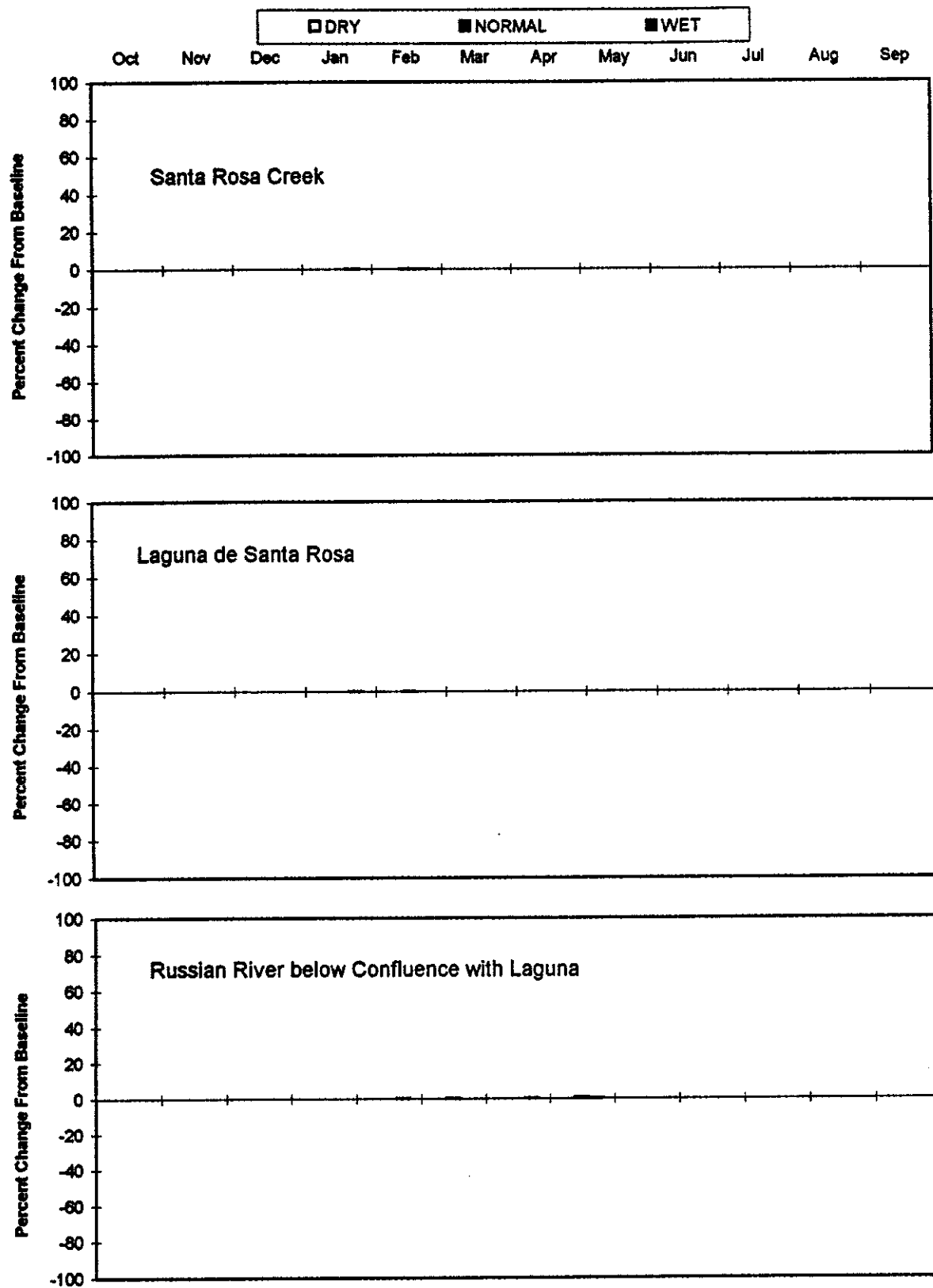
**Figure 4-18. Discharge Impacts on Benthic Algae - No Project
Zero discharge Baseline - Project Operations**



**Figure 4-18. Discharge Impacts on Benthic Algae - Geysers
Zero Discharge Baseline - Project Operations**



**Figure 4-19. Discharge Impacts on Planktonic Algae - 1% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations**



**Figure 4-19. Discharge Impacts on Planktonic Algae - 5% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations**

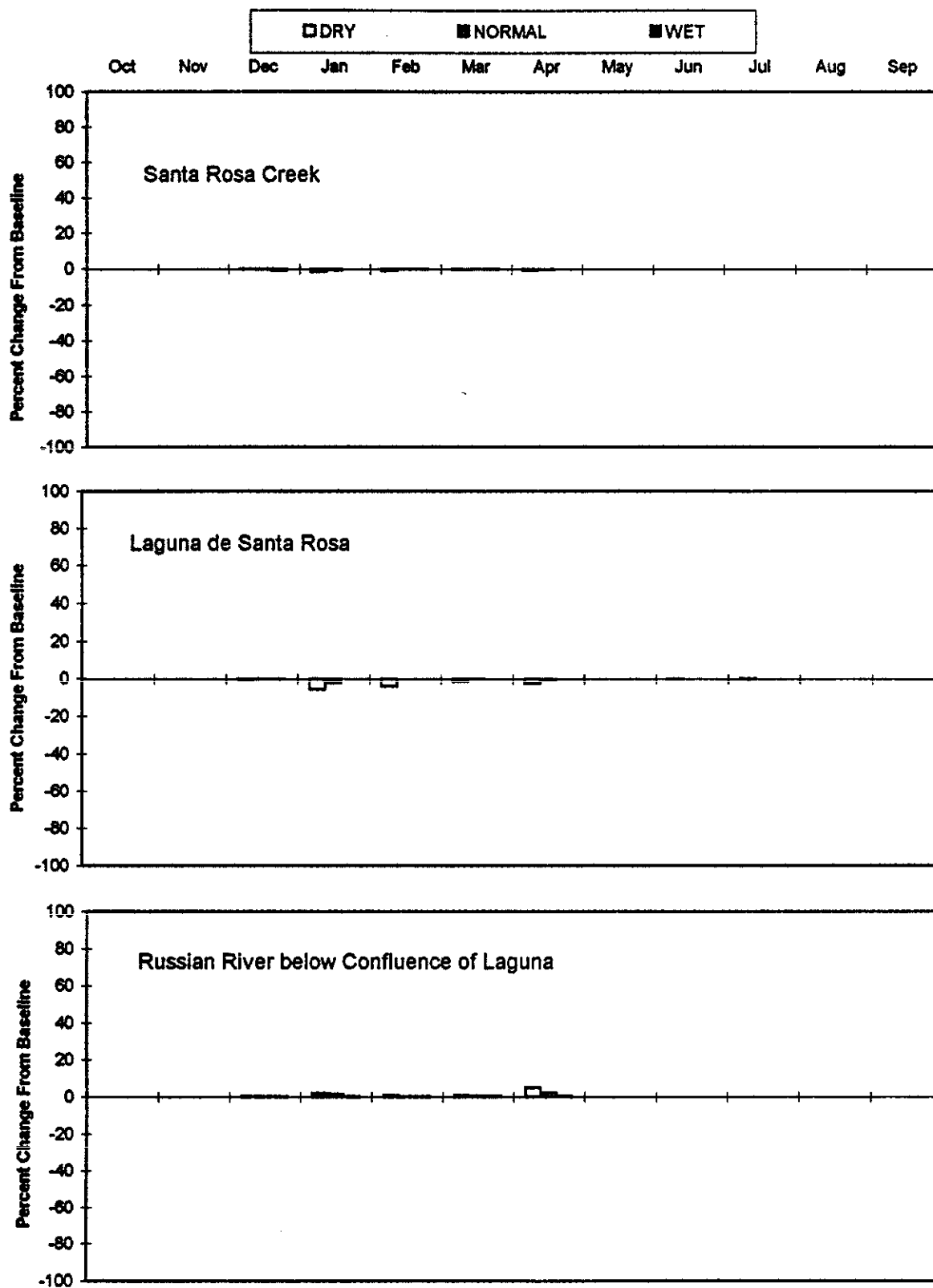


Figure 4-19. Discharge Impacts on Planktonic Algae - 10% Discharge to the Laguna de Santa Rosa

Zero Discharge Baseline - Project Operations

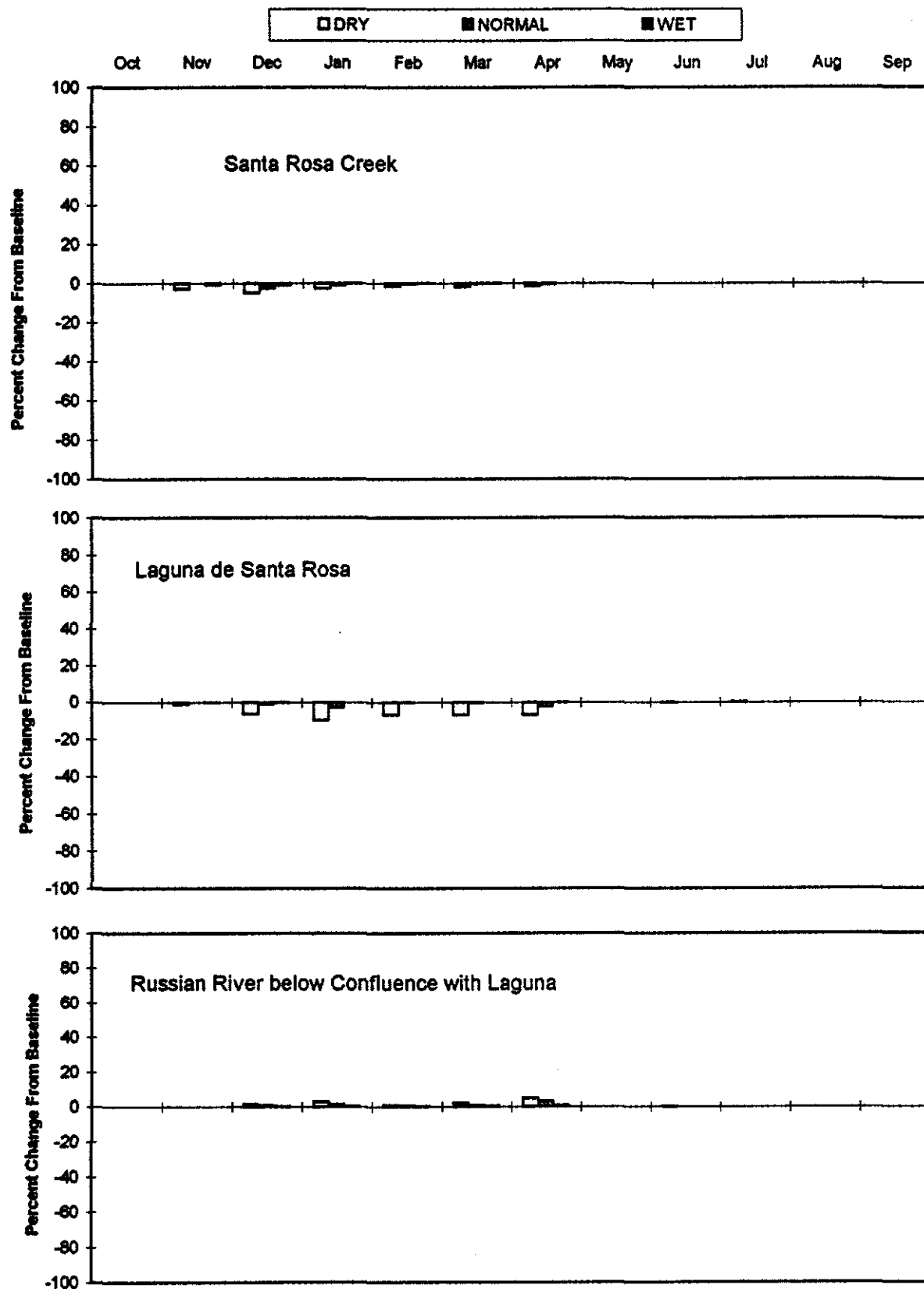
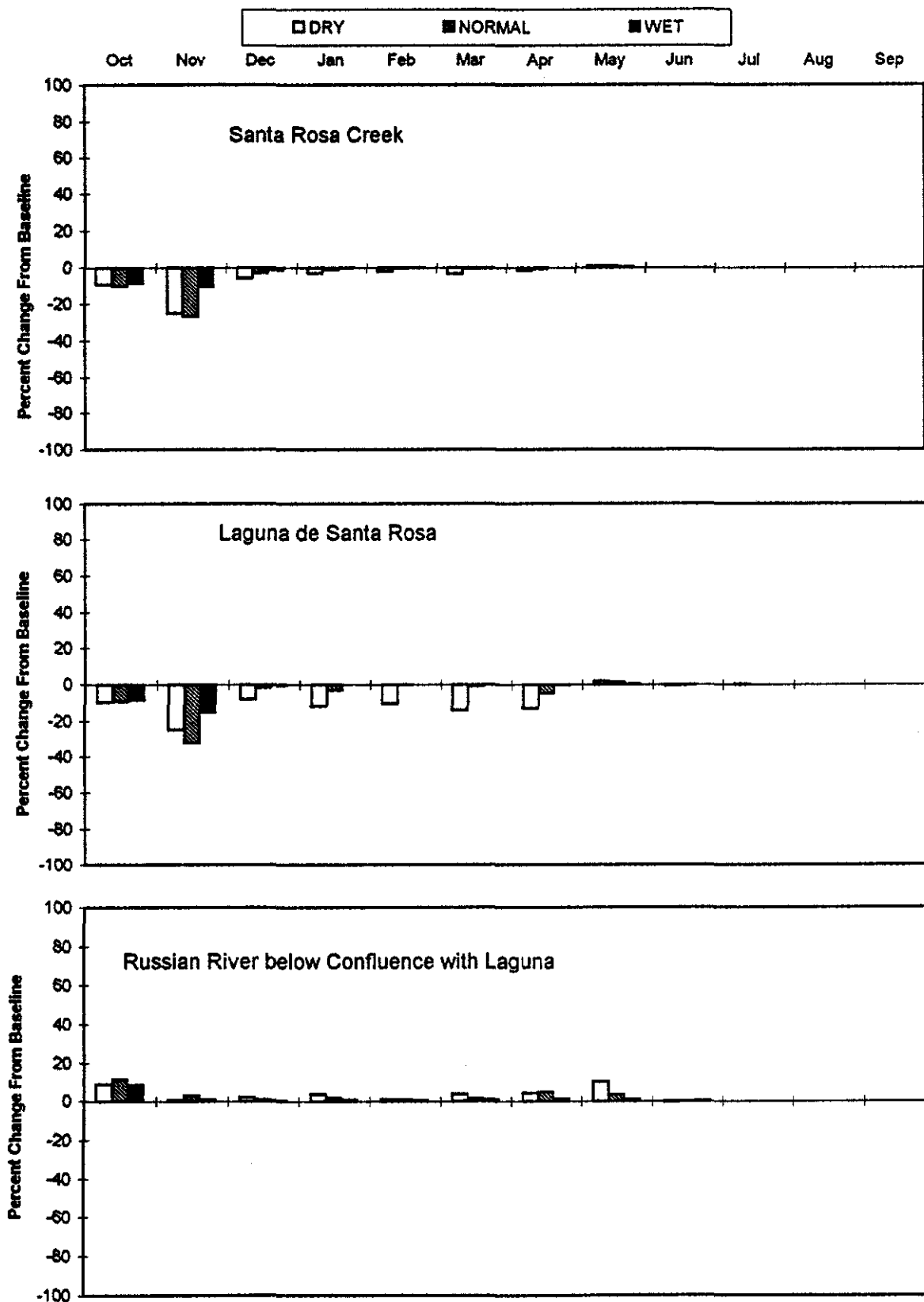
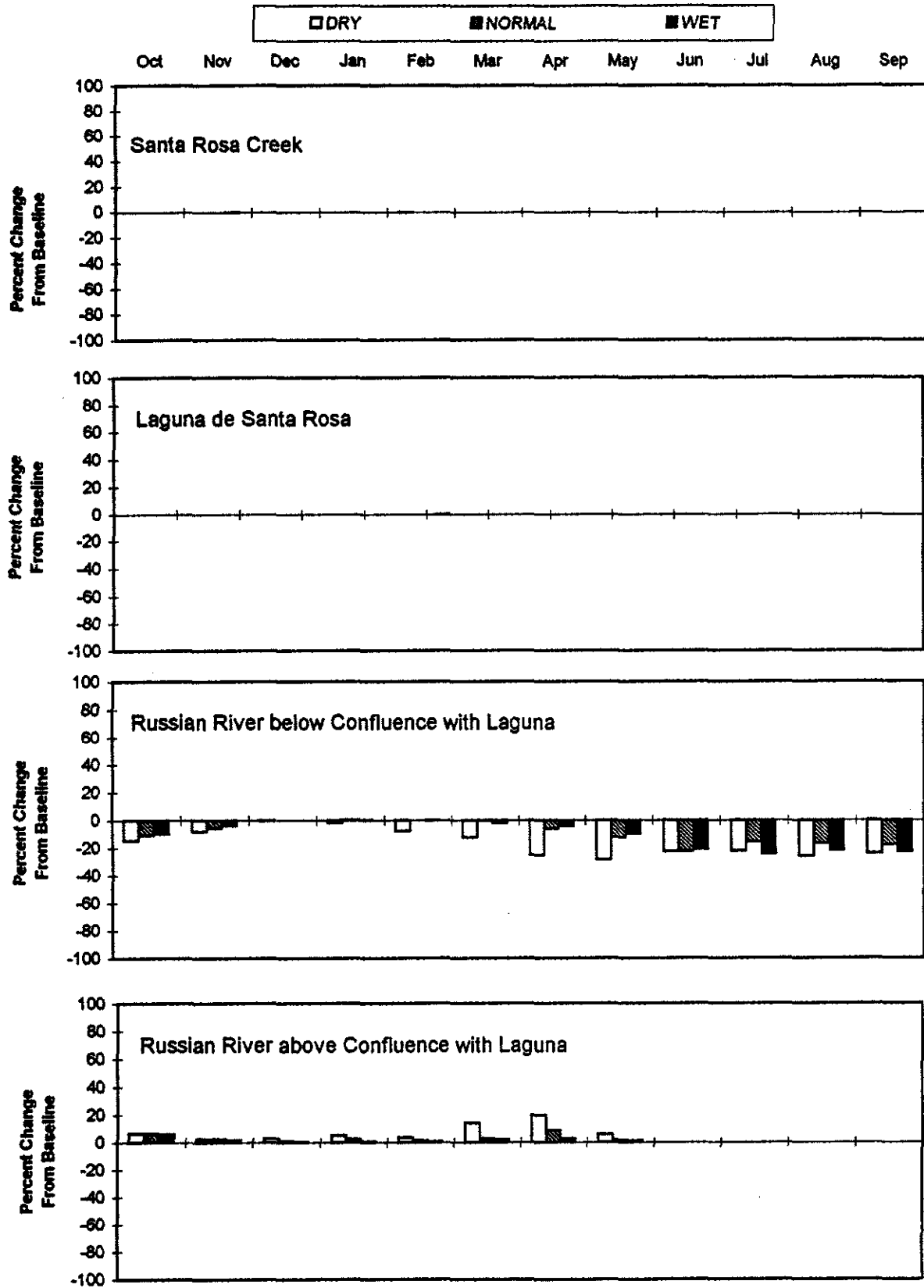


Figure 4-19. Discharge Impacts on Planktonic Algae - 20 % Discharge to the Laguna de Santa Rosa

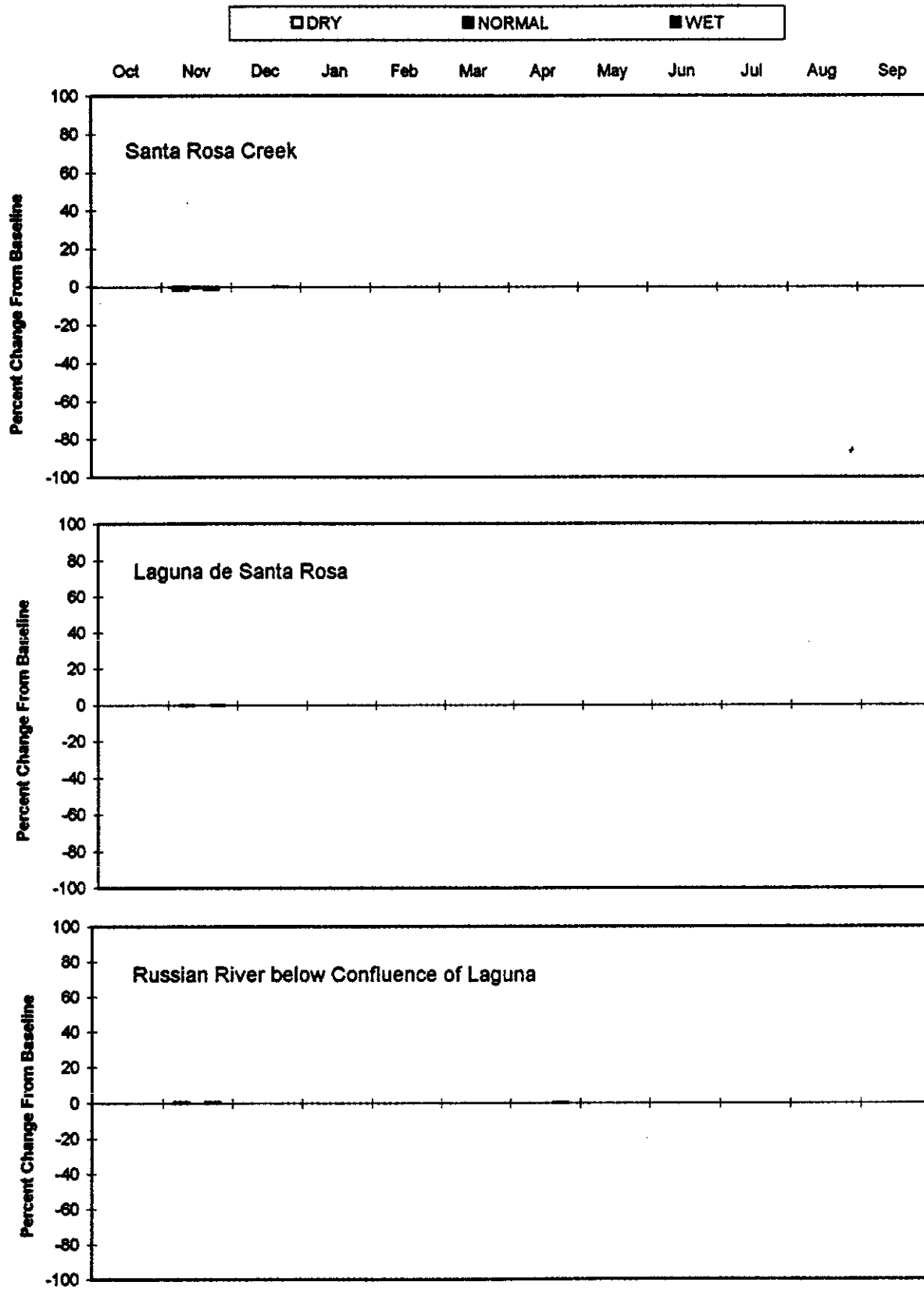
Zero Discharge Baseline - Project Operations



**Figure 4-19. Discharge Impacts on Planktonic Algae - 20% Discharge to the Russian River
Zero Discharge Baseline - Project Operations**



**Figure 4-19. Discharge Impacts on Planktonic Algae - Geysers
Zero Discharge Baseline - Project Operations**



**Figure 4-19. Discharge Impacts on Planktonic Algae - No Project
Zero Discharge Baseline - Project Operations**

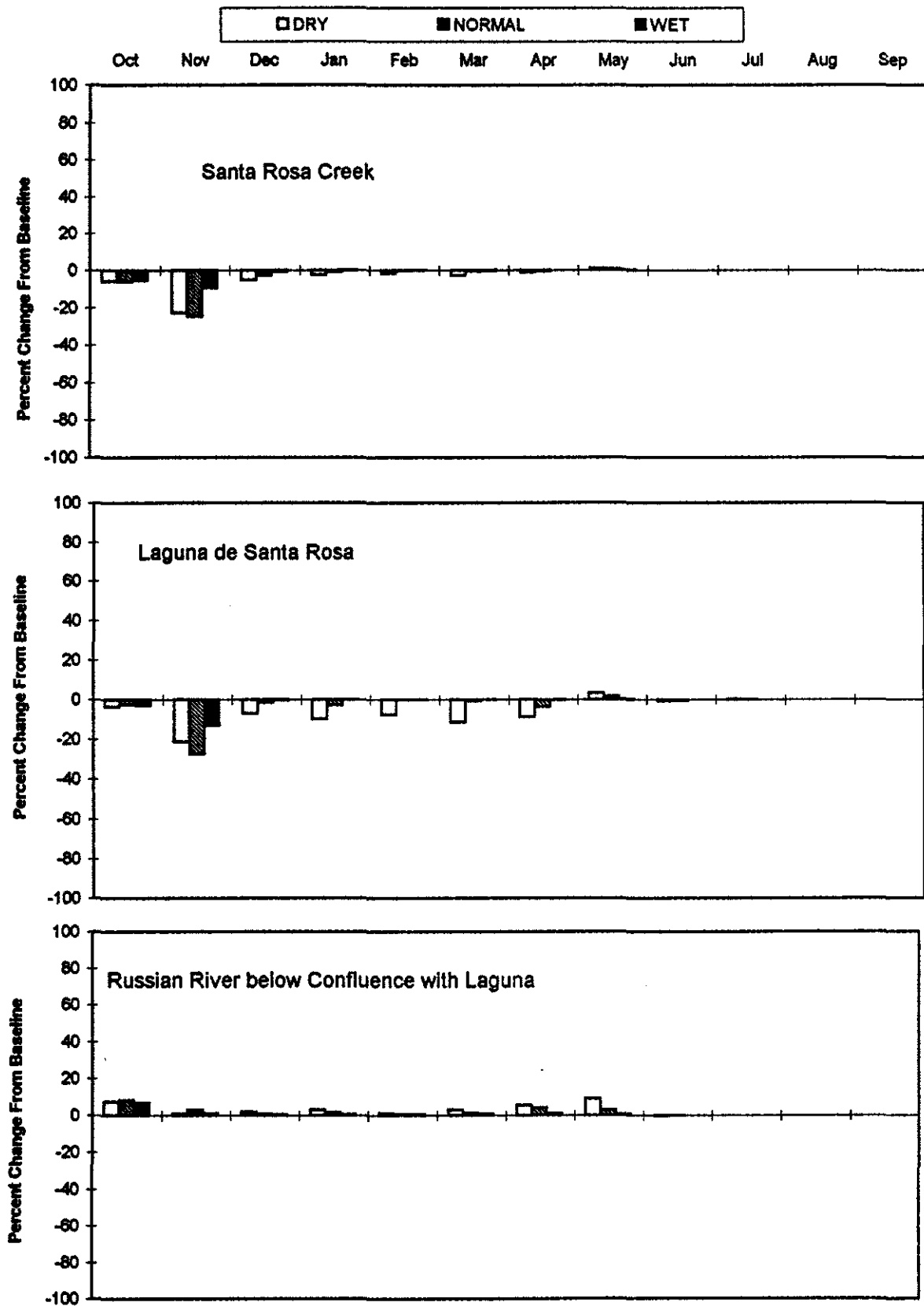


Figure 4-20. Discharge Impacts on Average Monthly Dissolved Oxygen - 1% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations

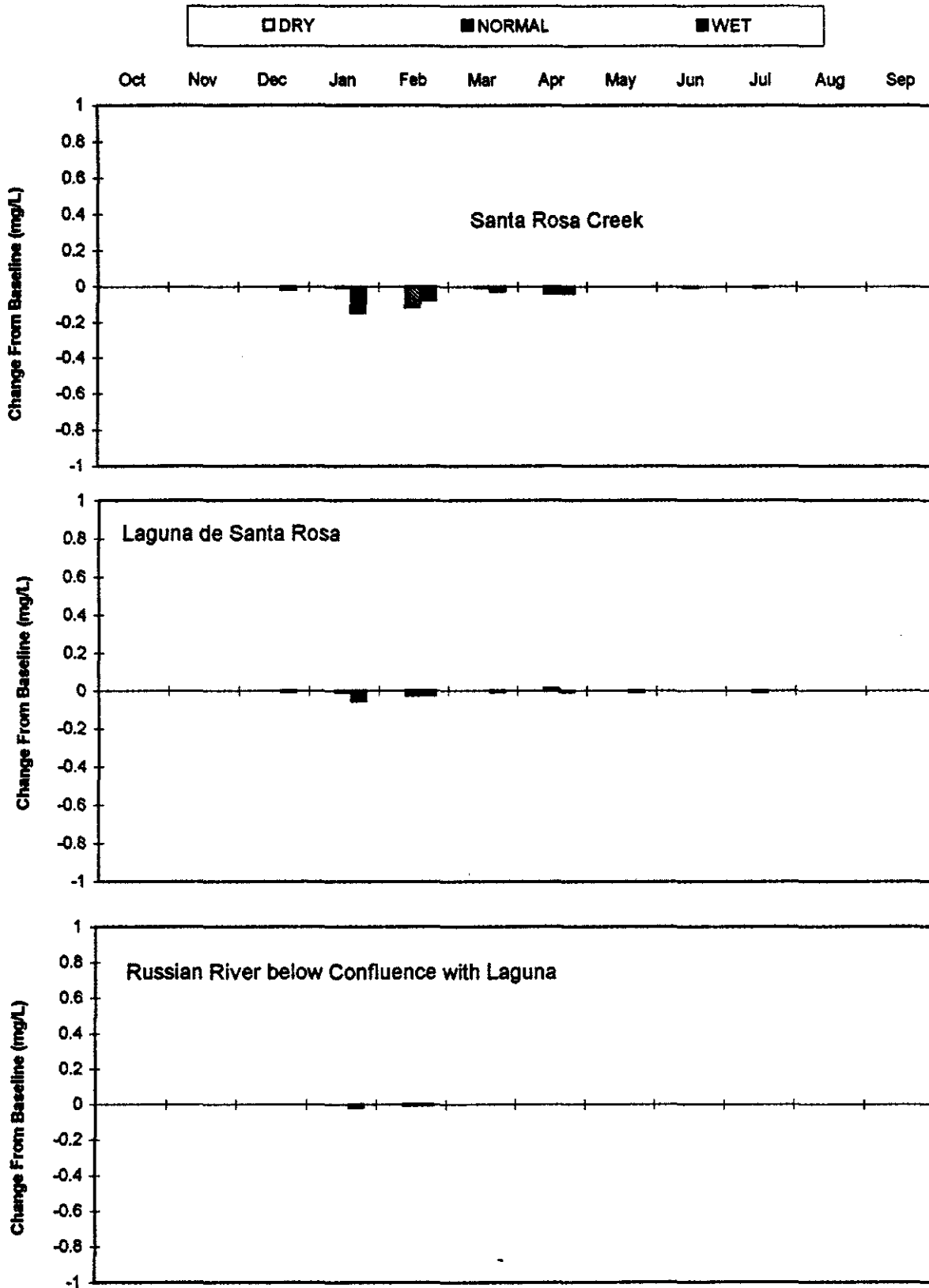


Figure 4-20. Discharge Impacts on Average Monthly Dissolved Oxygen - 5% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations

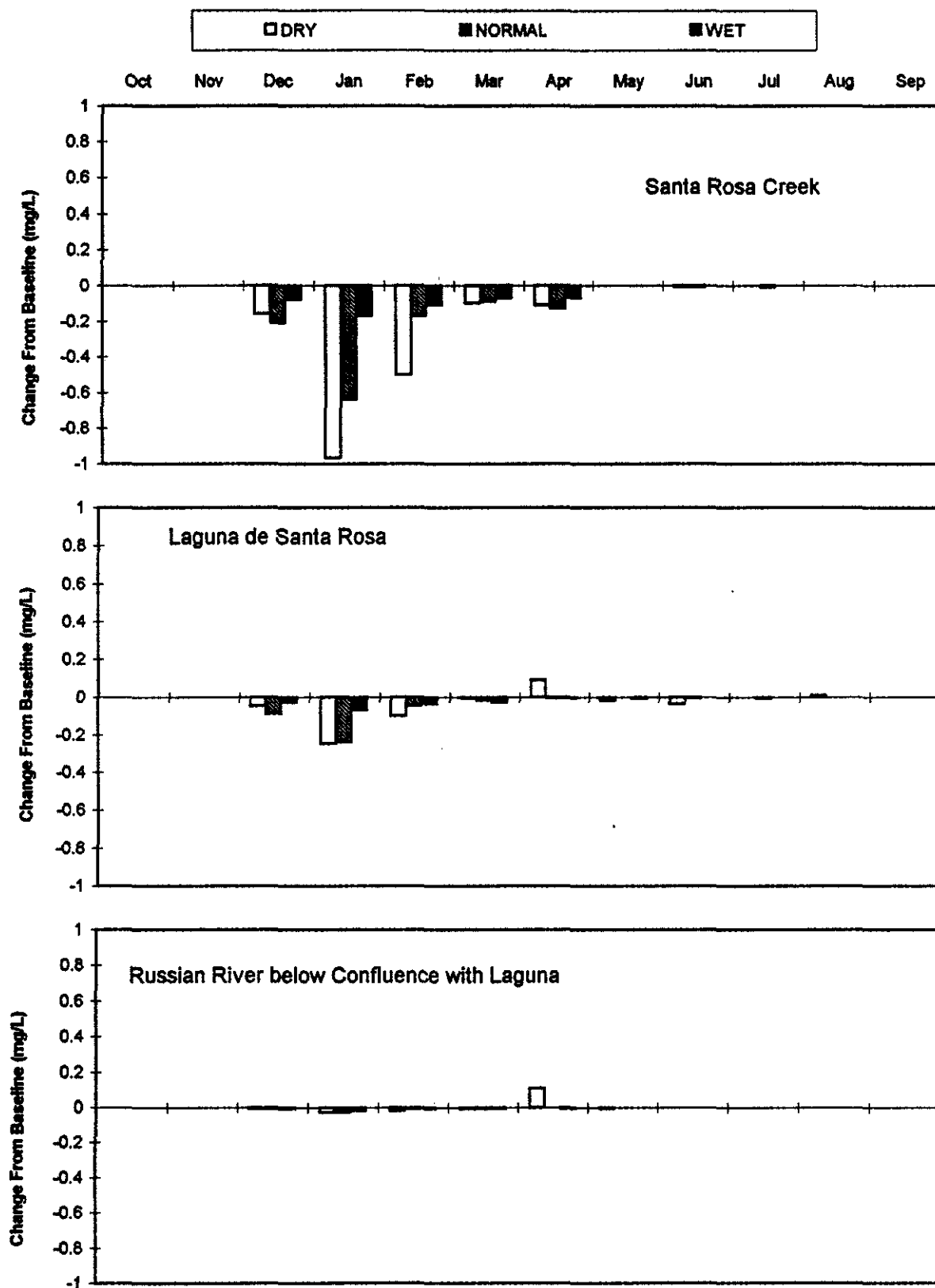
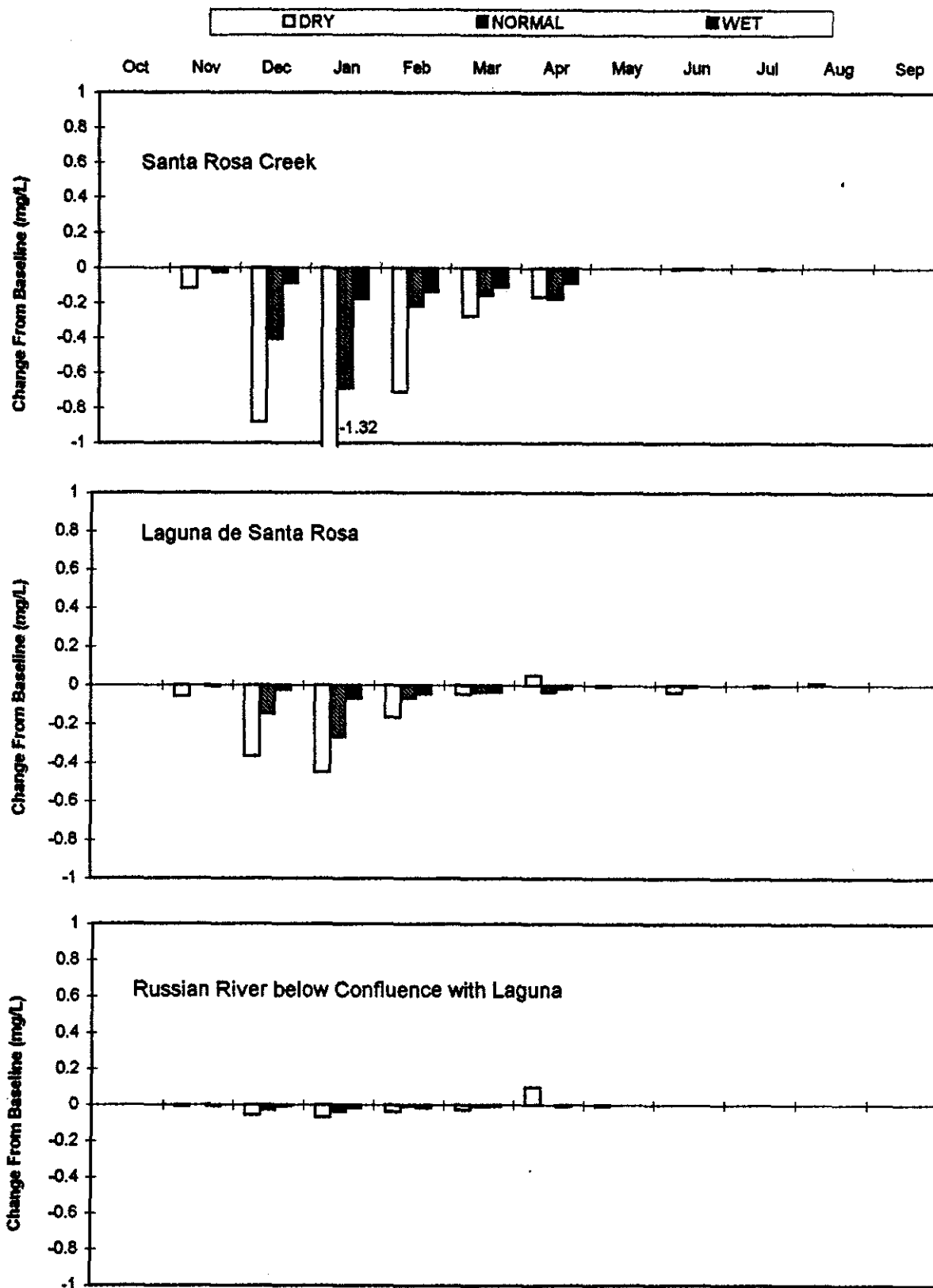


Figure 4-20. Discharge Impacts on Average Monthly Dissolved Oxygen - 10% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations



Figur 4-20. Discharge Impacts on Average Monthly Dissolved Oxygen - 20% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations

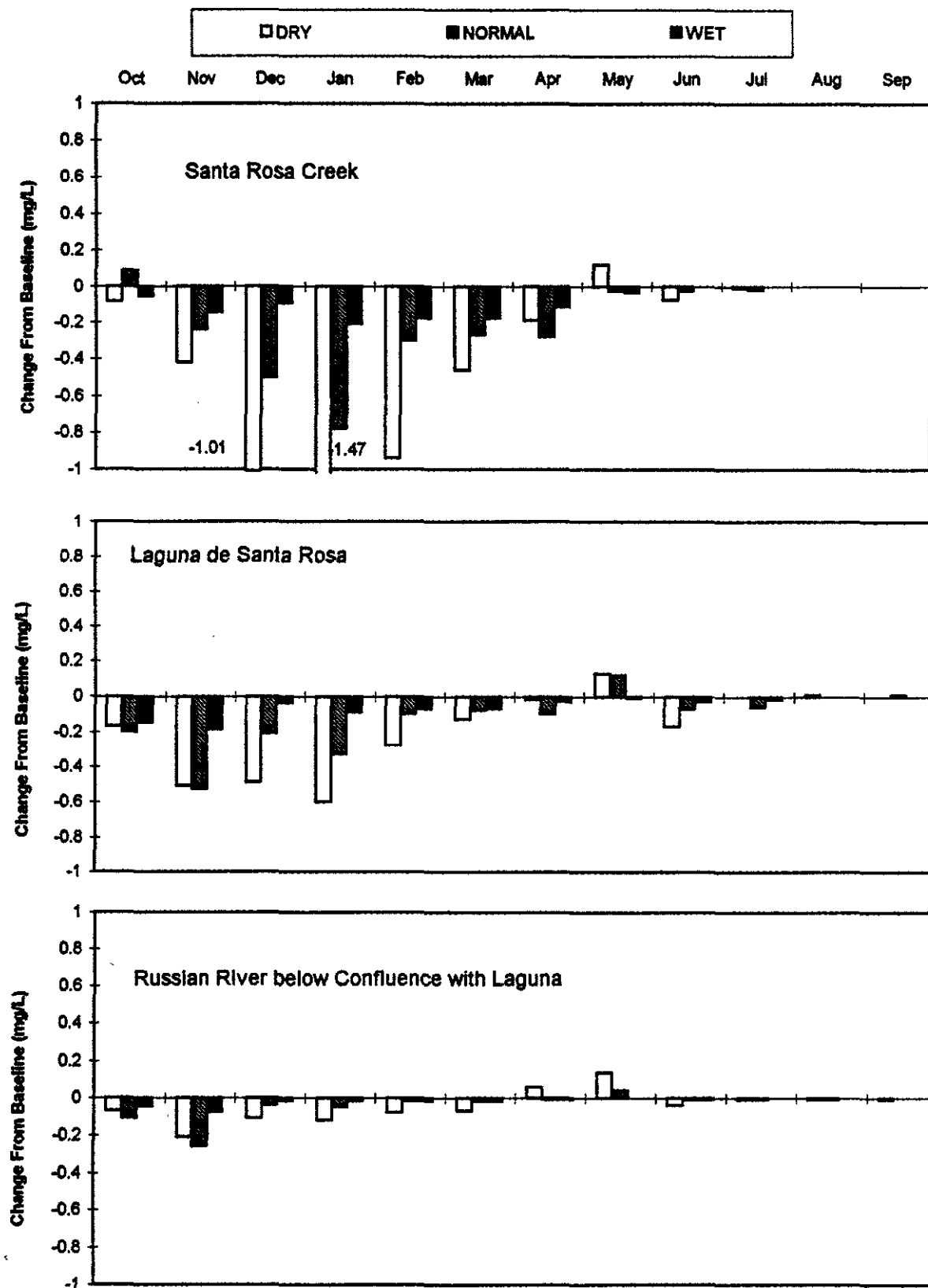
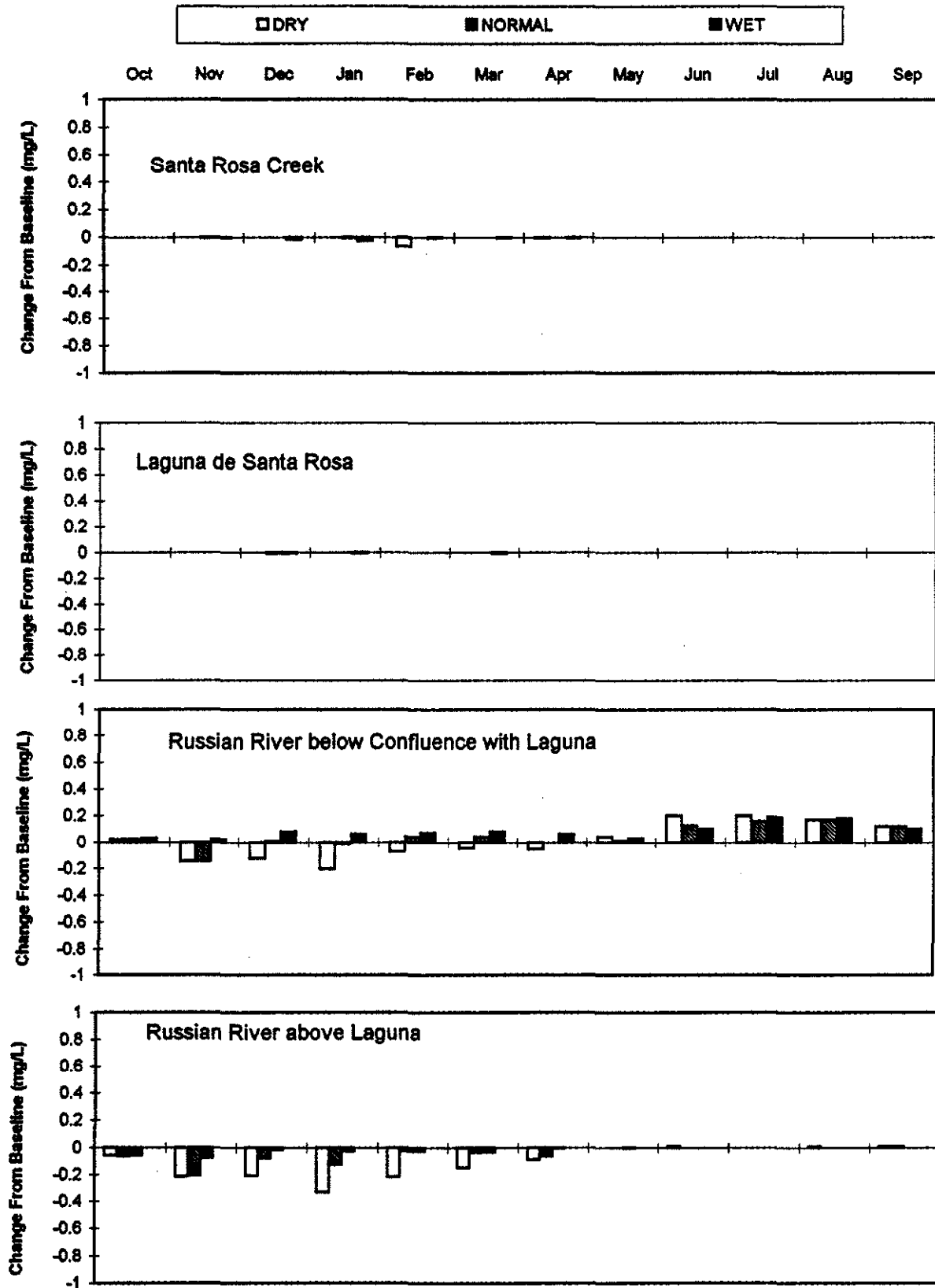
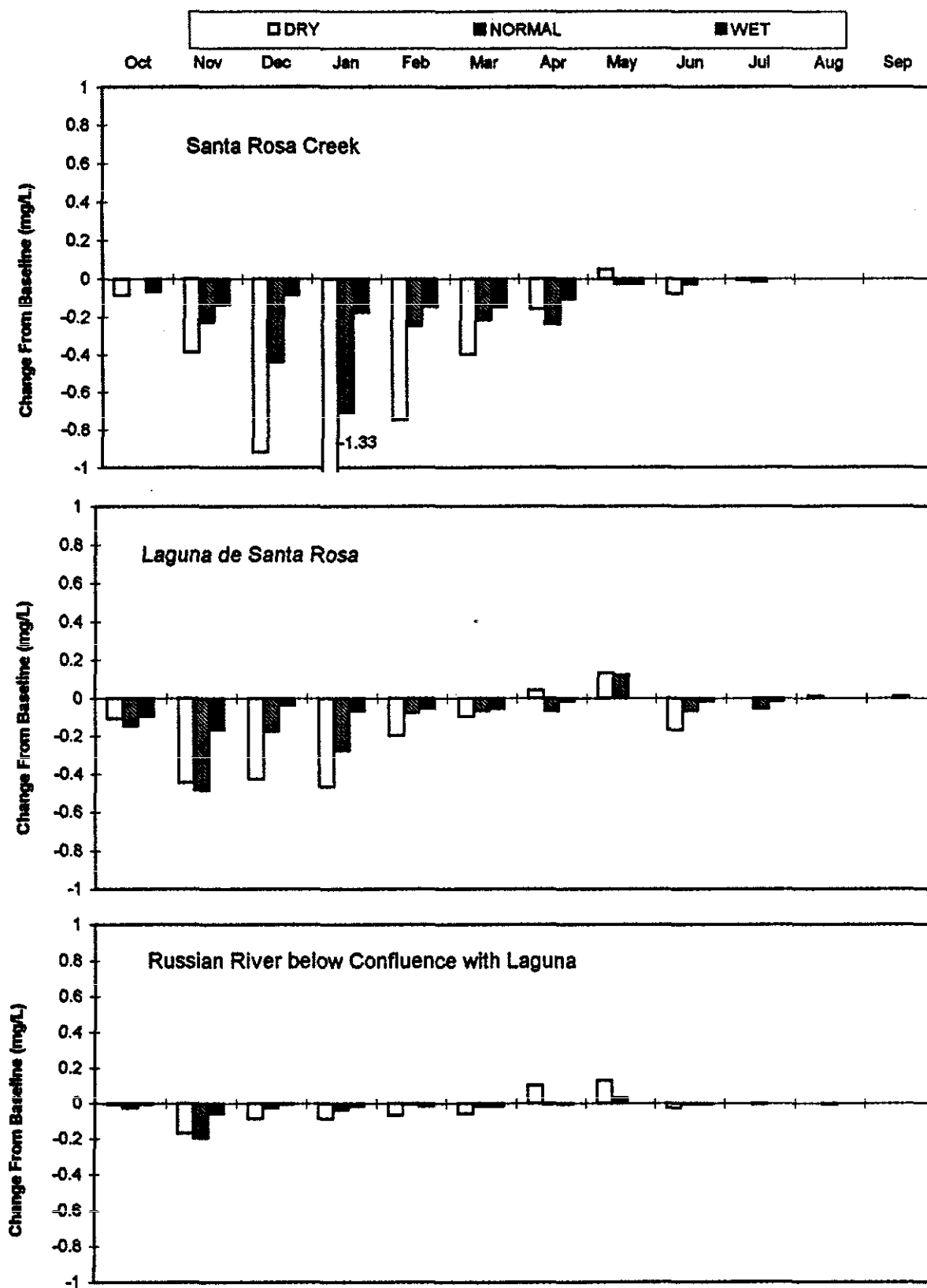


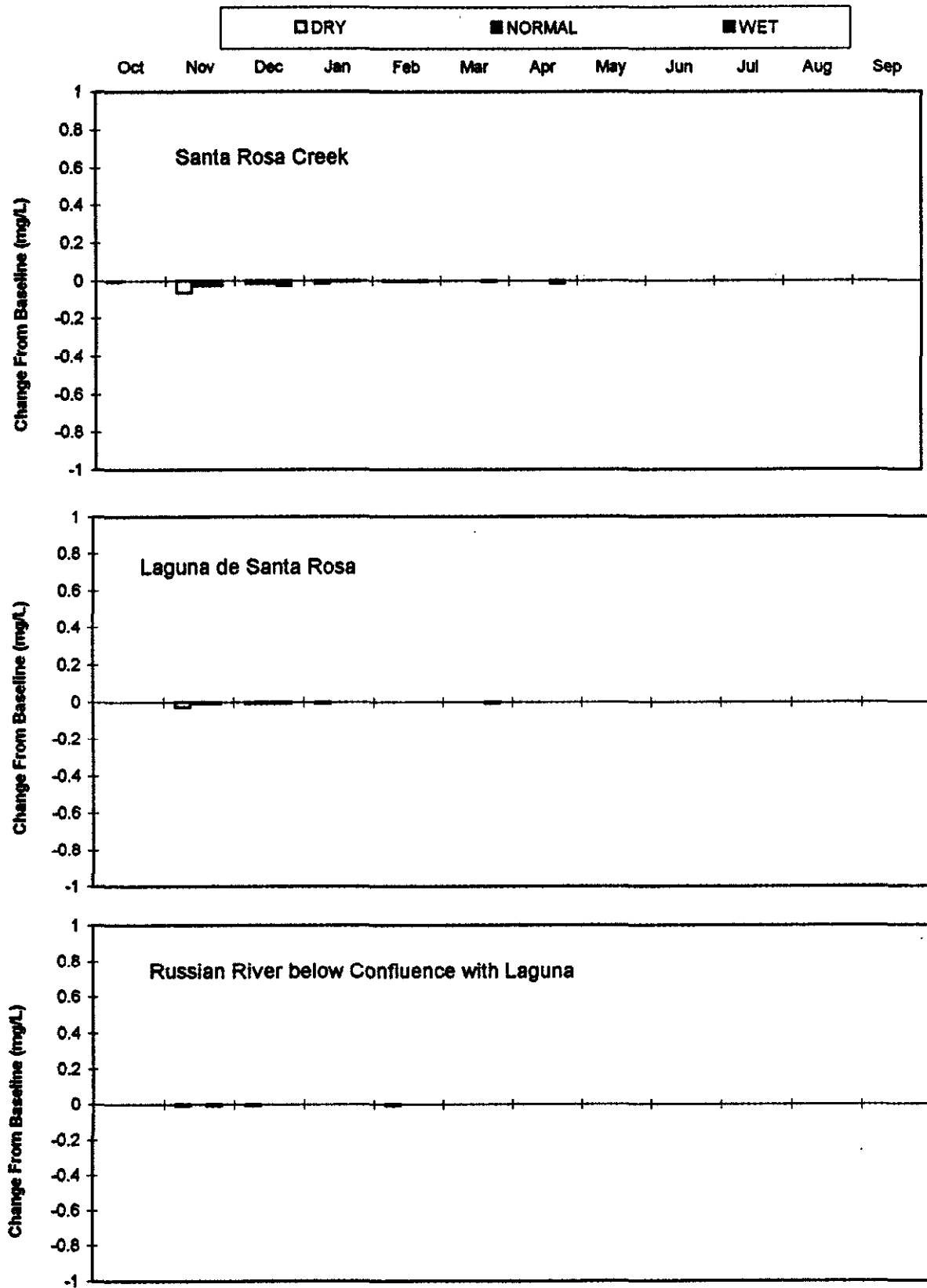
Figure 4-20. Discharge Impacts on Average Monthly Dissolved Oxygen - 20% Discharge to the Russian River
Zero Discharge Baseline - Project Operations



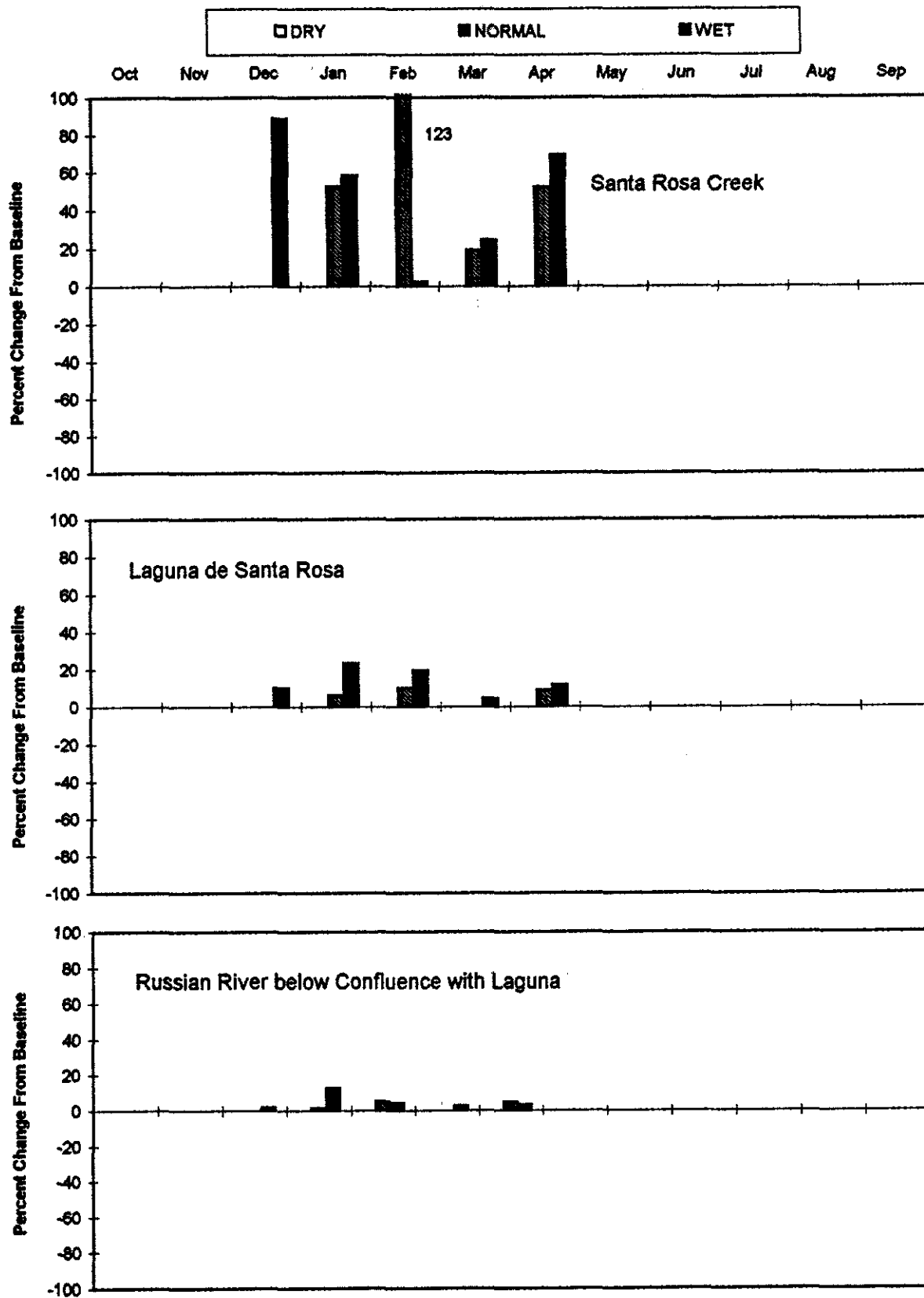
**Figure 4-20. Discharge Impacts on Average Monthly Dissolved Oxygen - No Project
Zero Discharge Baseline - Project Operations**



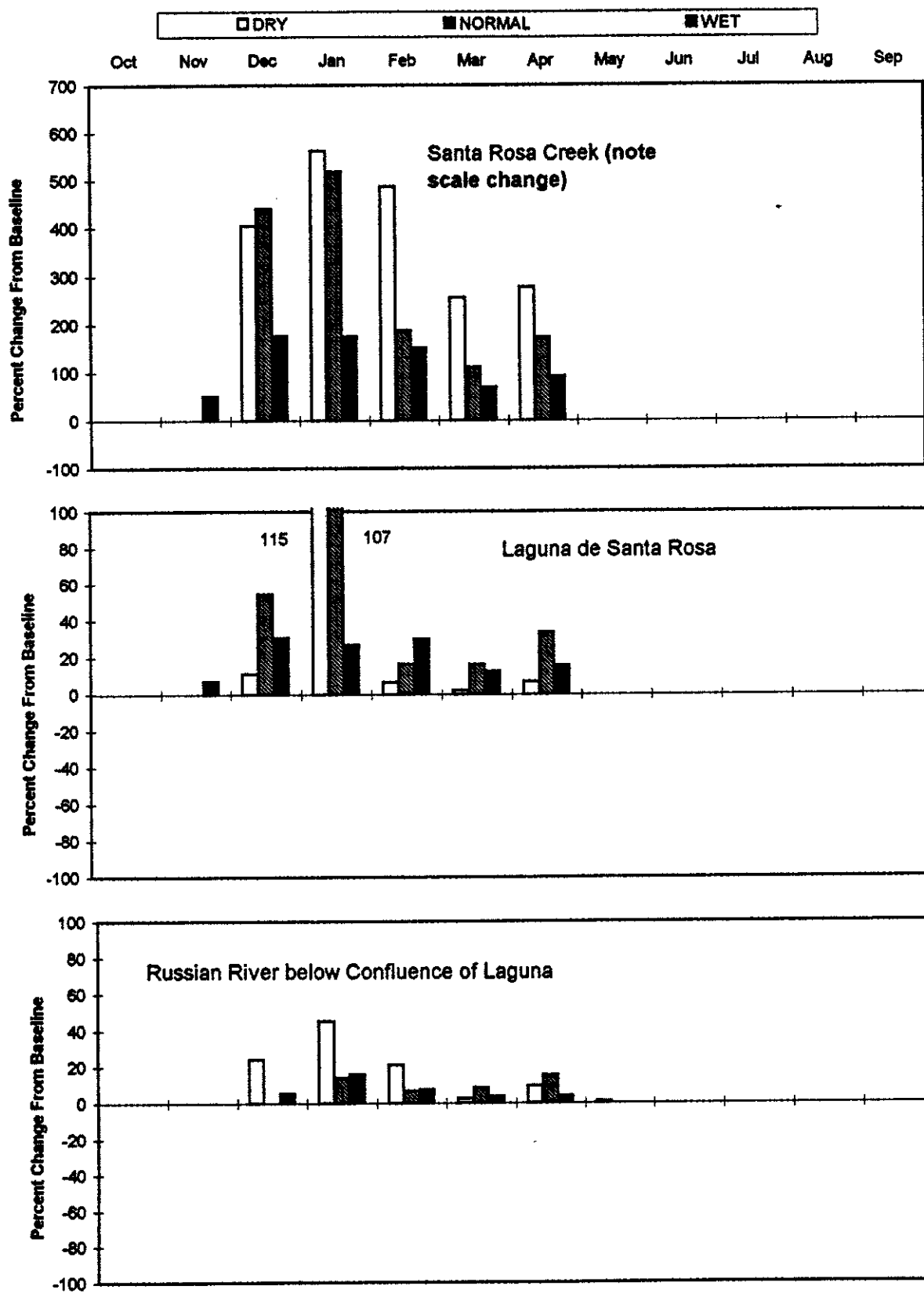
**Figure 4-20. Discharge Impacts on Average Monthly Dissolved Oxygen - Geysers
Zero Discharge Baseline - Project Operations**



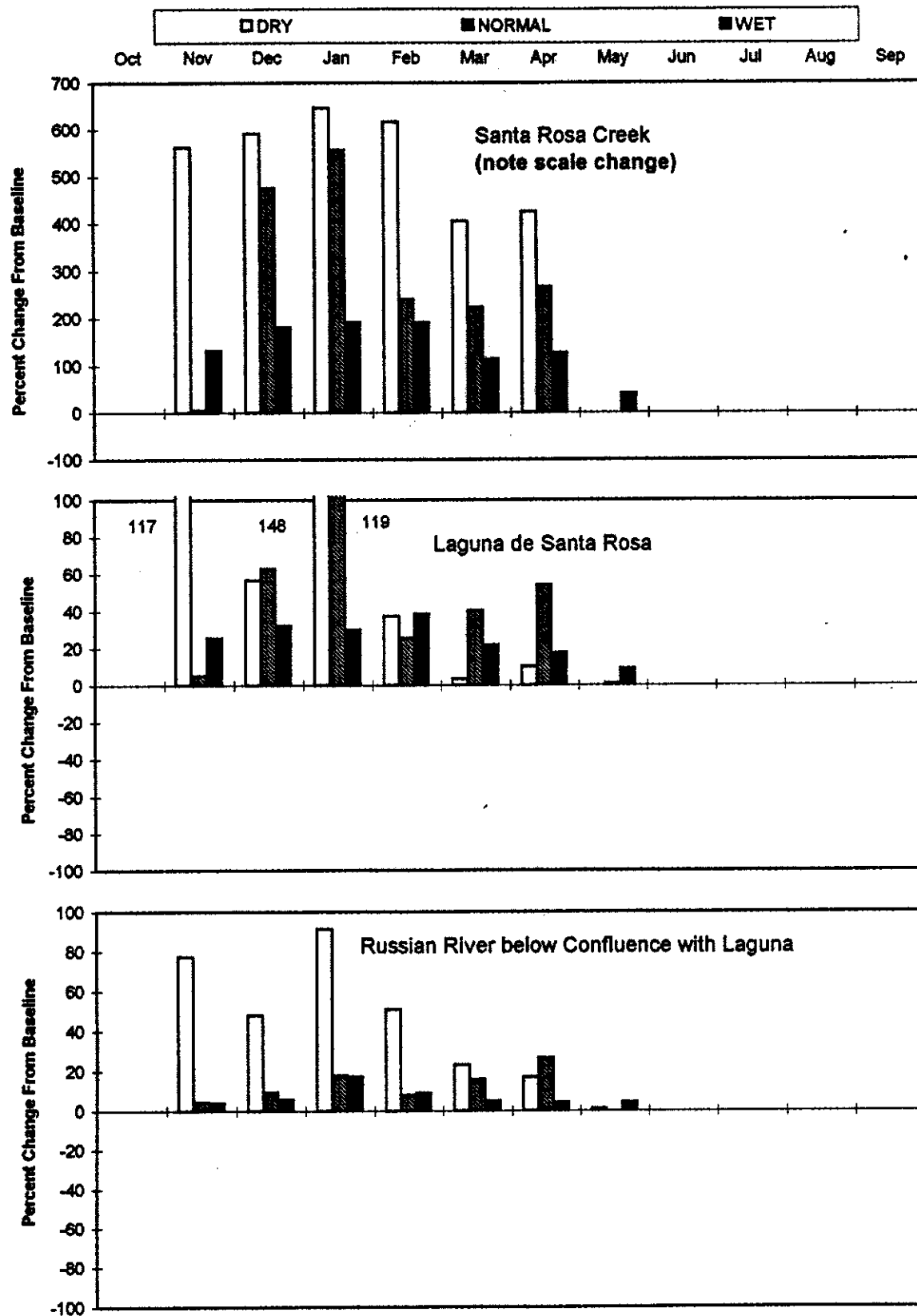
**Figure 4-21. Discharge Impacts on Ammonia - 1% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations**



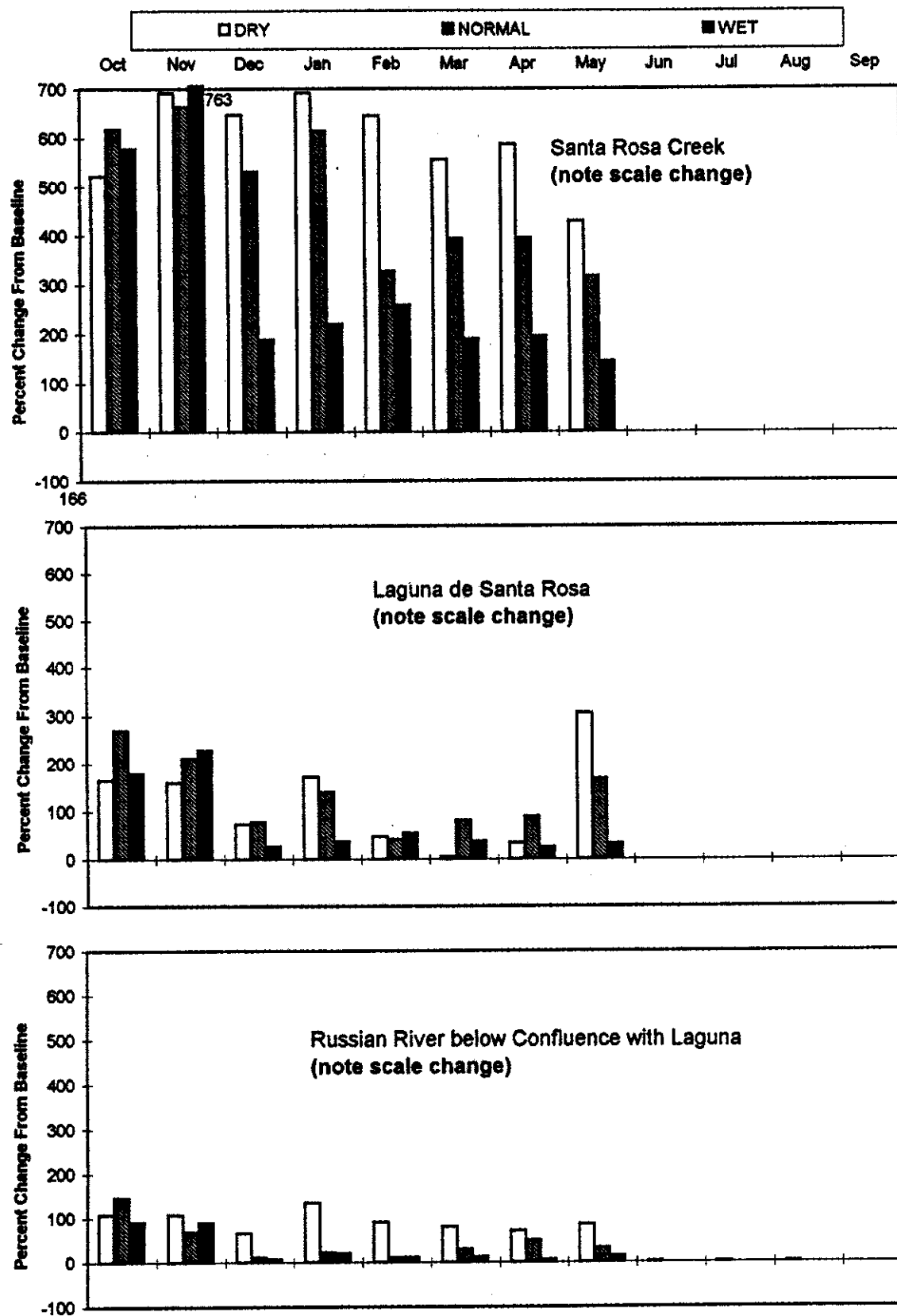
**Figure 4-21. Discharge Impacts on Ammonia - 5% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations**



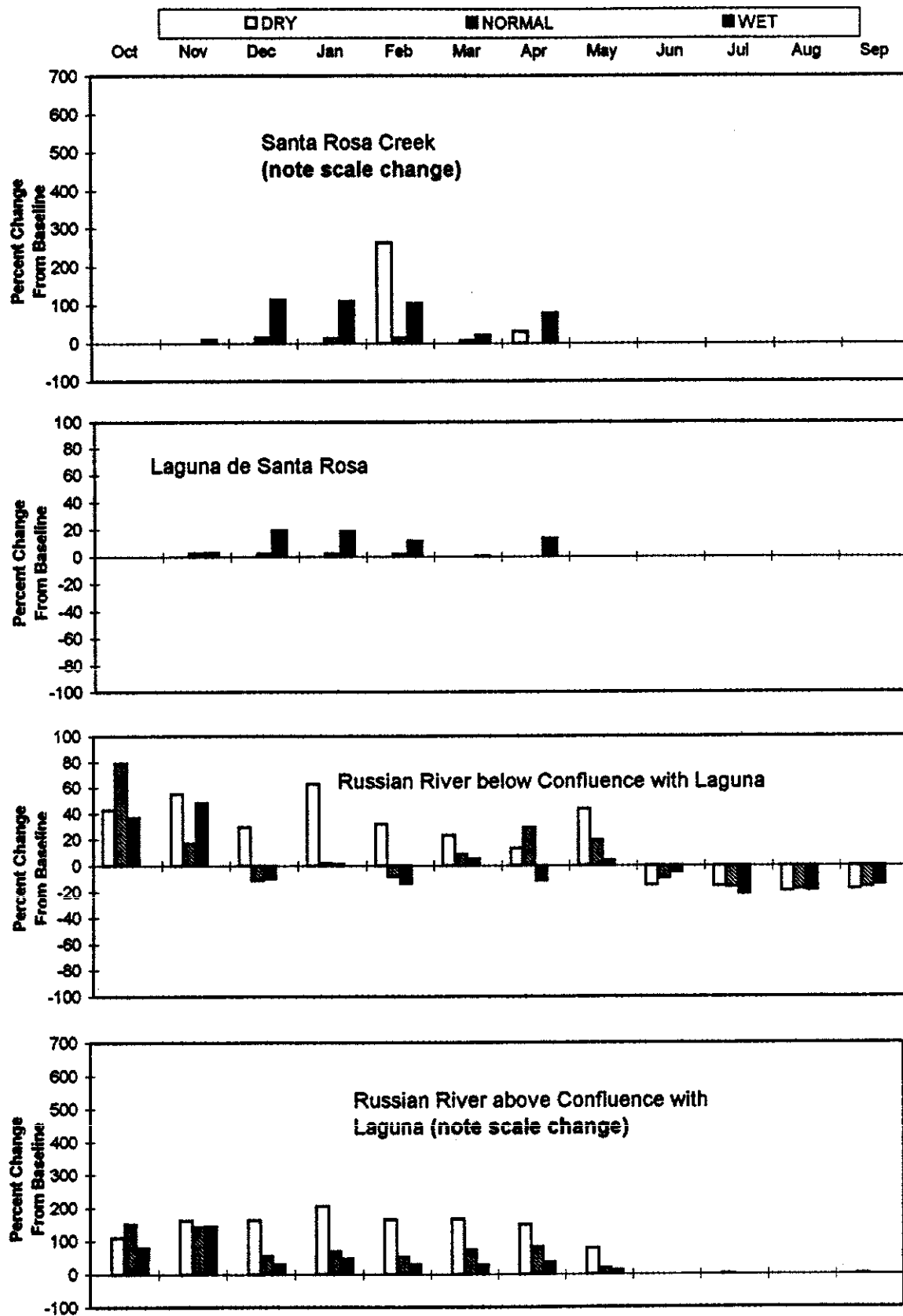
**Figure 4-21. Discharge Impacts on Ammonia - 10% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations**



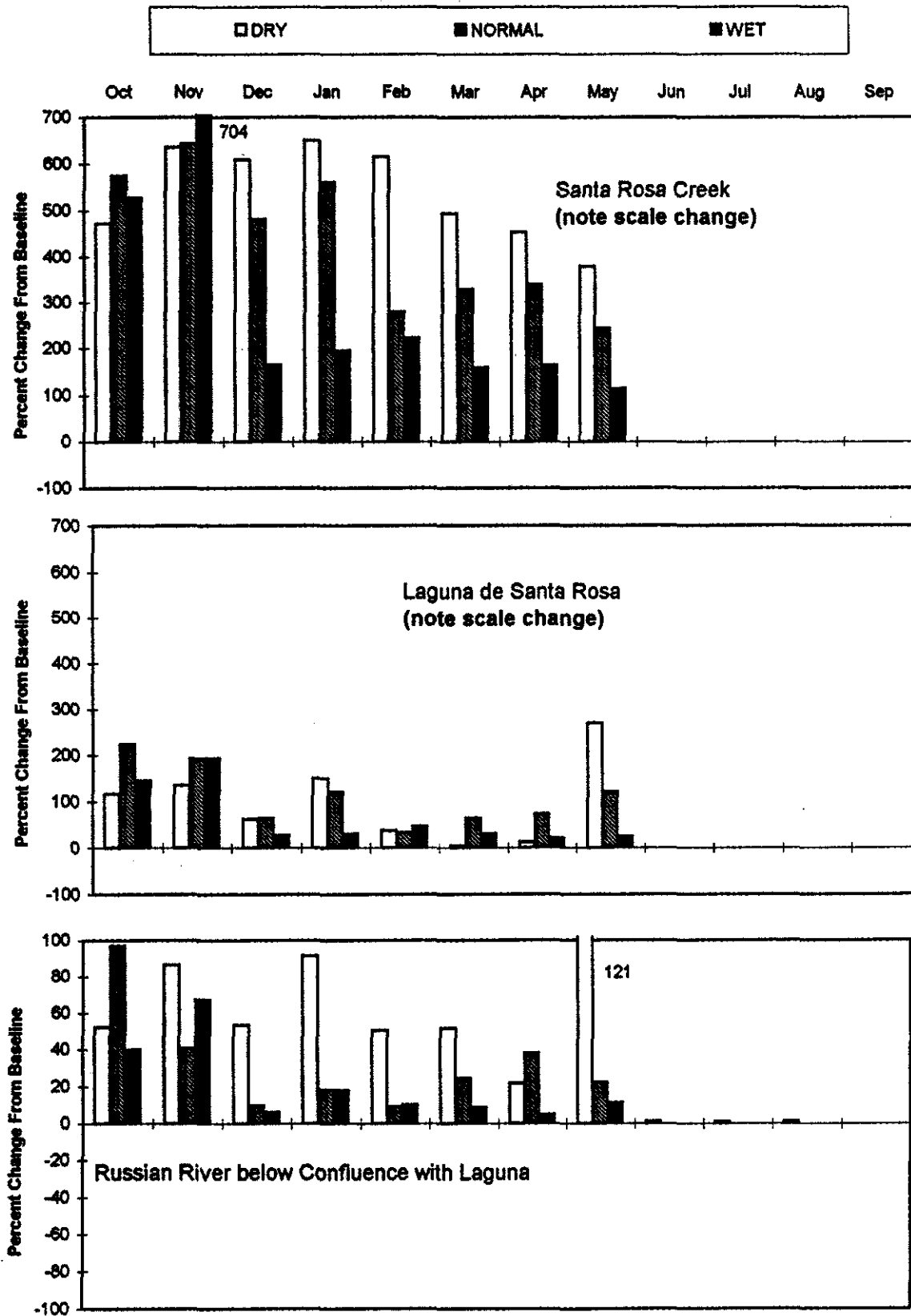
**Figure 4-21. Discharge Impacts on Ammonia - 20% Discharge to the Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations**



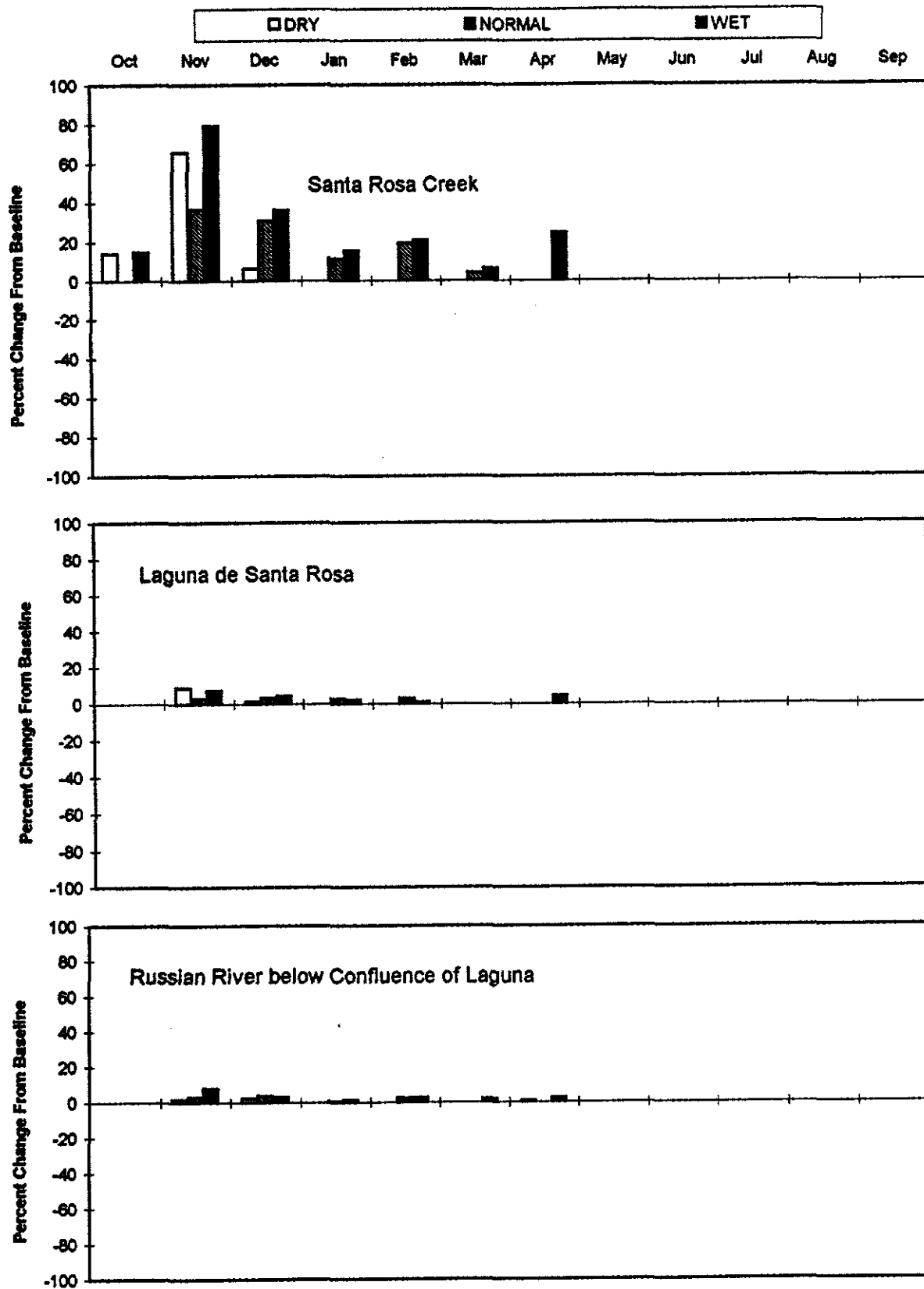
**Figure 4-21. Discharge Impacts on Ammonia - 20% Discharge to the Russian River
Zero Discharge Baseline - Project Operations**



**Figure 4-21. Discharge Impacts on Ammonia - No Project
Zero Discharge Baseline - Project Operations**



**Figure 4-21. Discharge Impacts on Ammonia - Geysers
Zero Discharge Baseline - Project Operations**



**FIGURE 4-22. Discharge Impacts on Average Monthly Temperature - 1% Discharge to the
Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations**

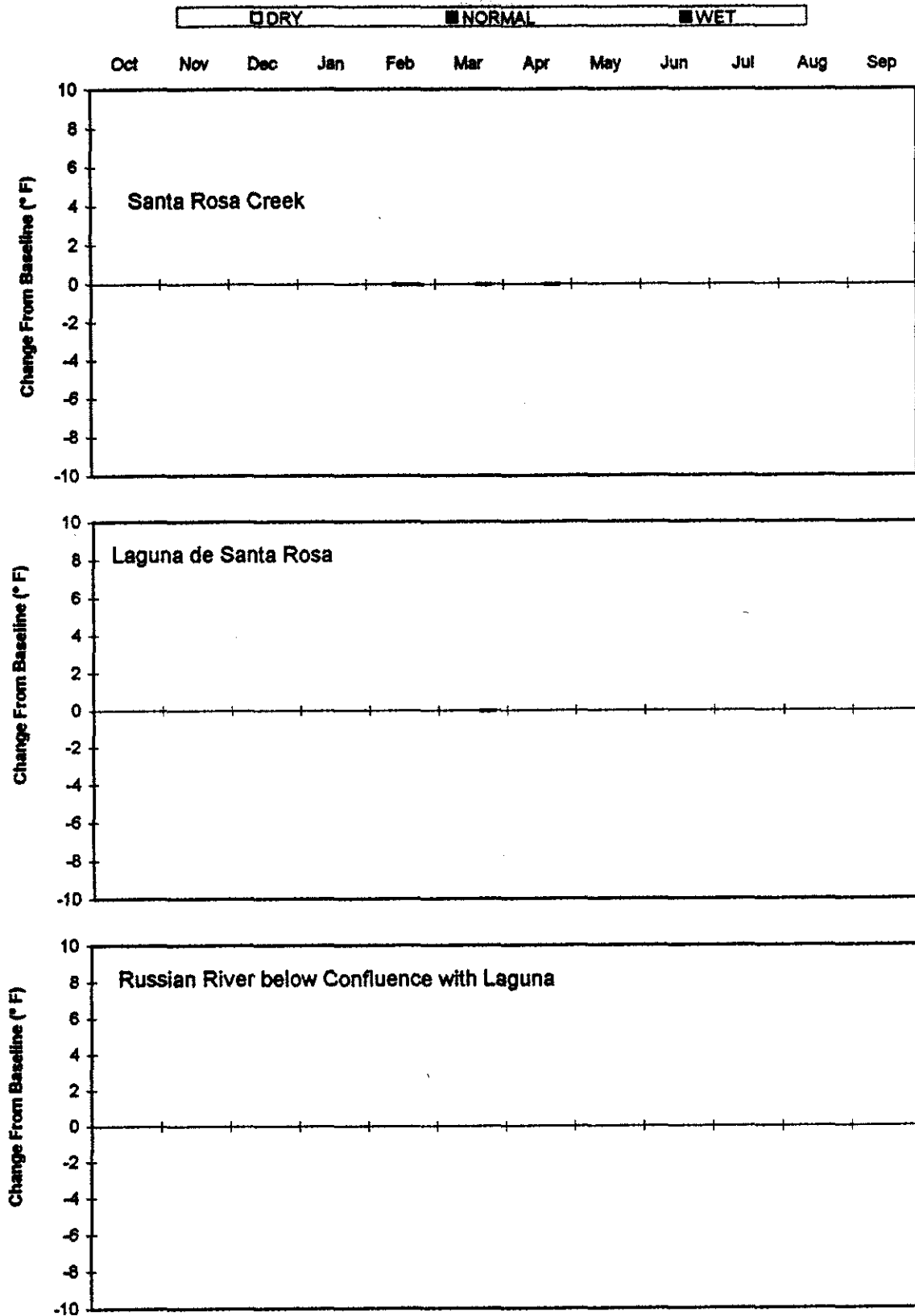
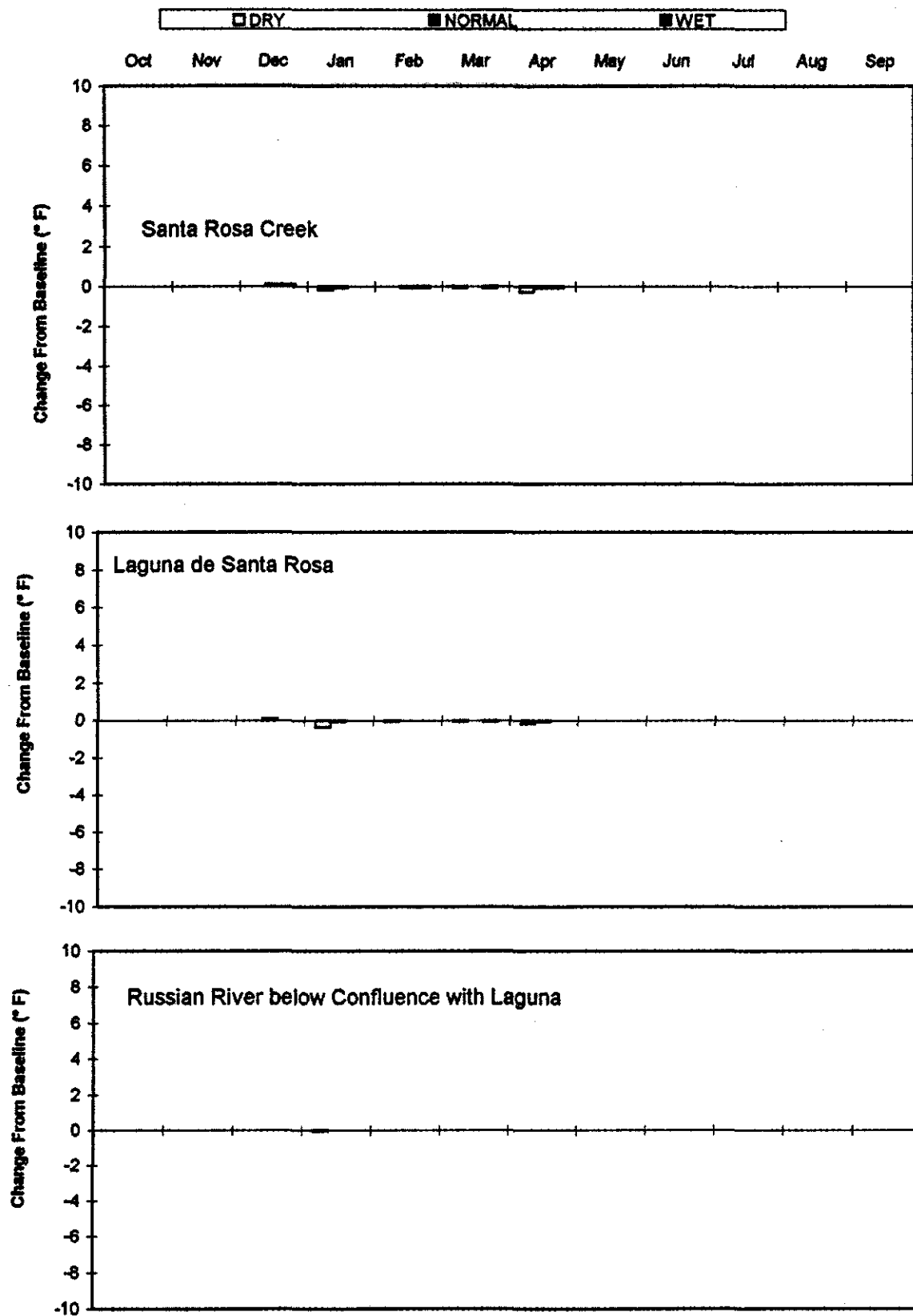
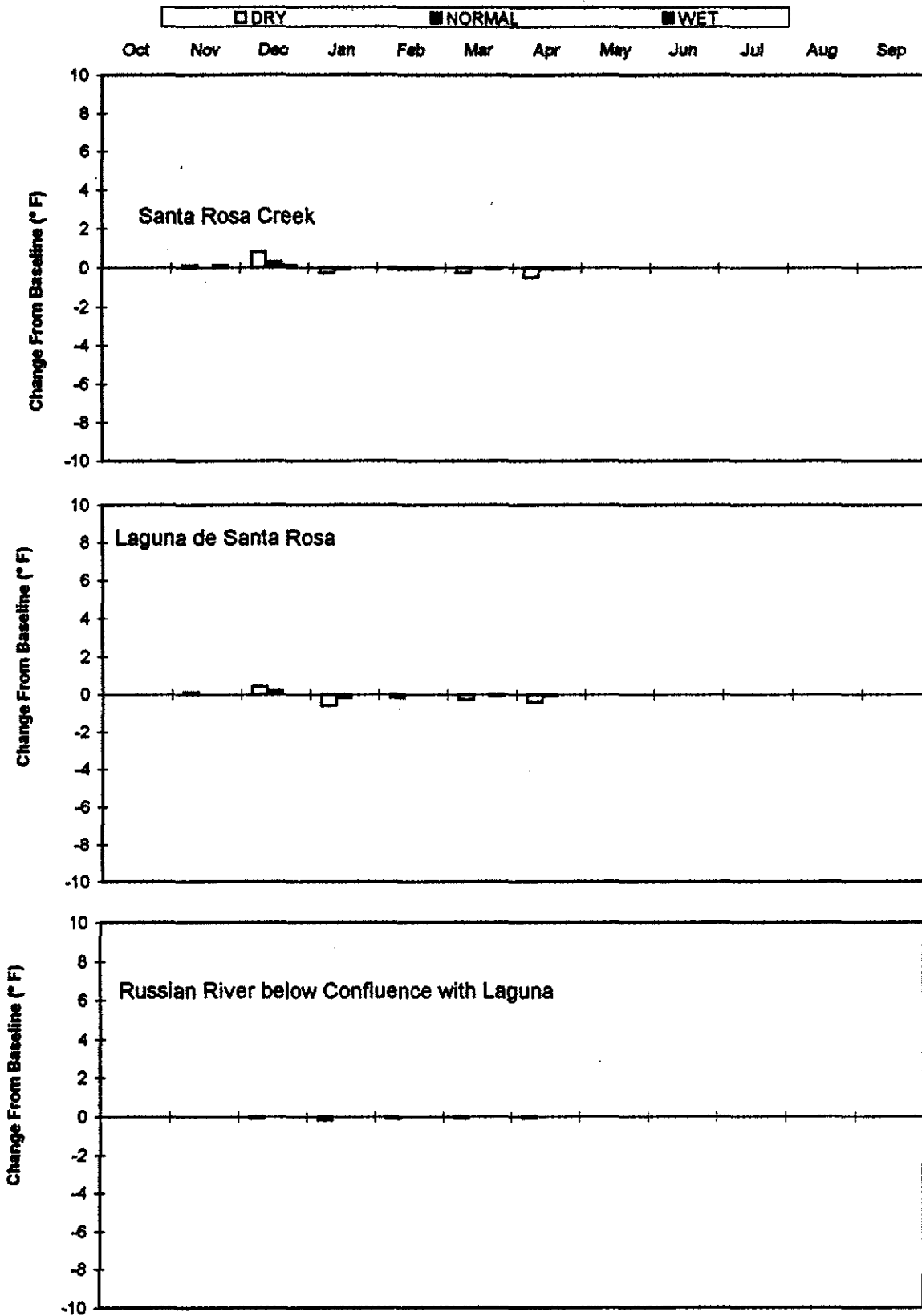


Figure 4-22. Discharge Impacts on Average Monthly Temperature - 5% Discharge to the Laguna de Santa Rosa

Zero Discharge Baseline -Project Operations



**Figure 4-22. Discharge Impacts on Average Monthly Temperature - 10% Discharge to the
Laguna de Santa Rosa
Zero Discharge Baseline - Project Operations**



Figur 4-22. Discharge Impacts on Average Monthly Temperature - 20% Discharge to the Laguna de Santa Rosa

Zero Discharge Baseline - Project Operations

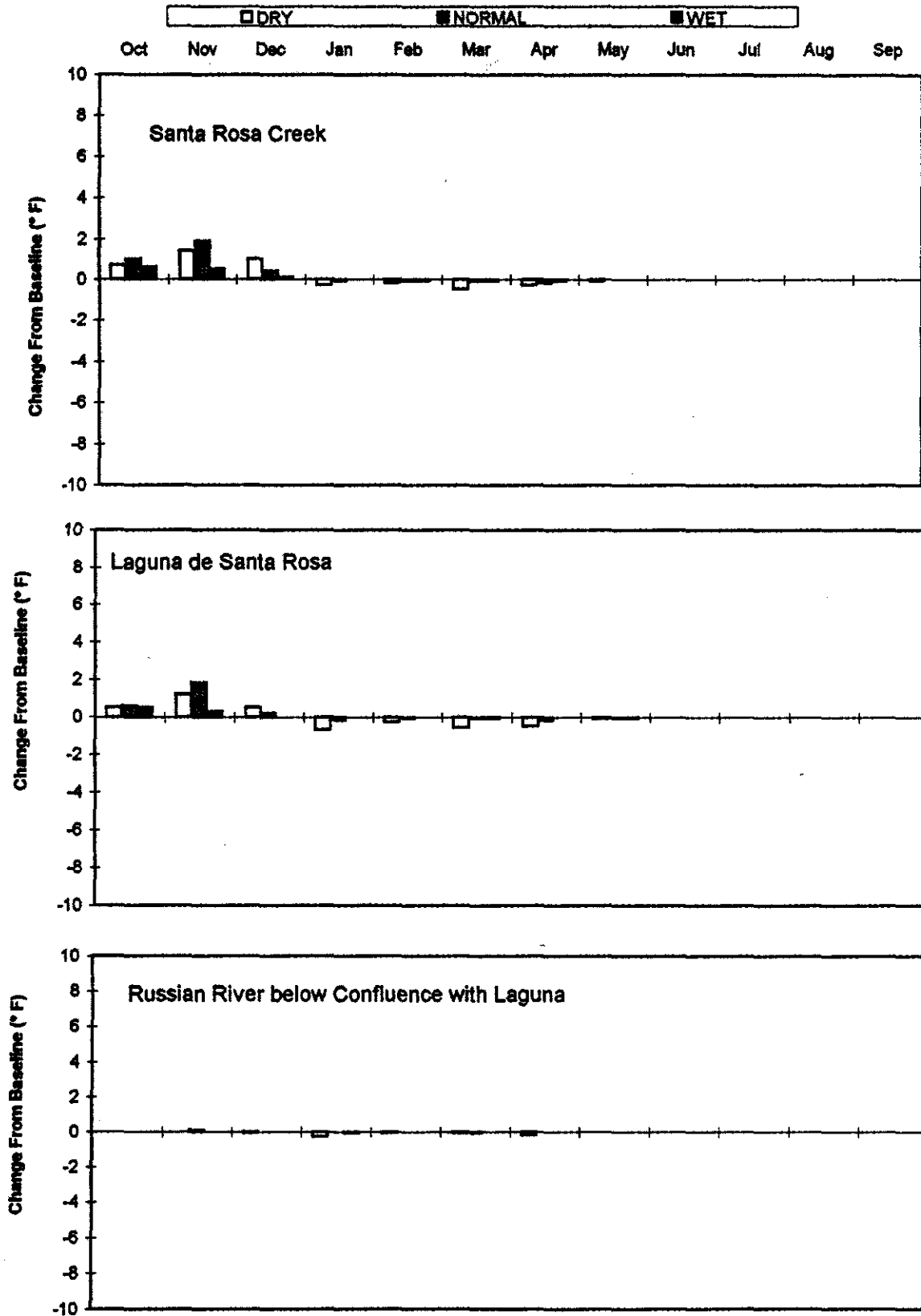
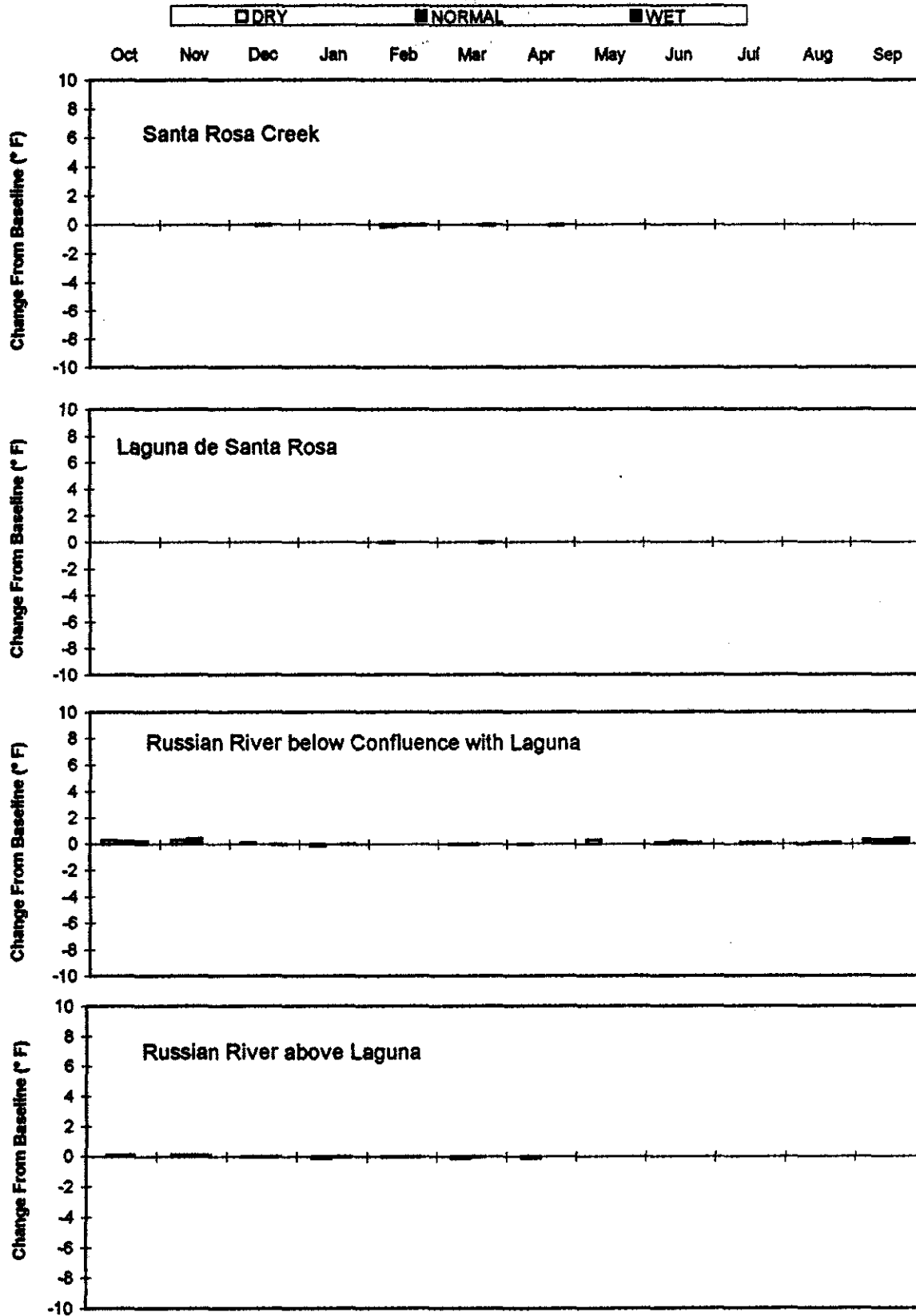
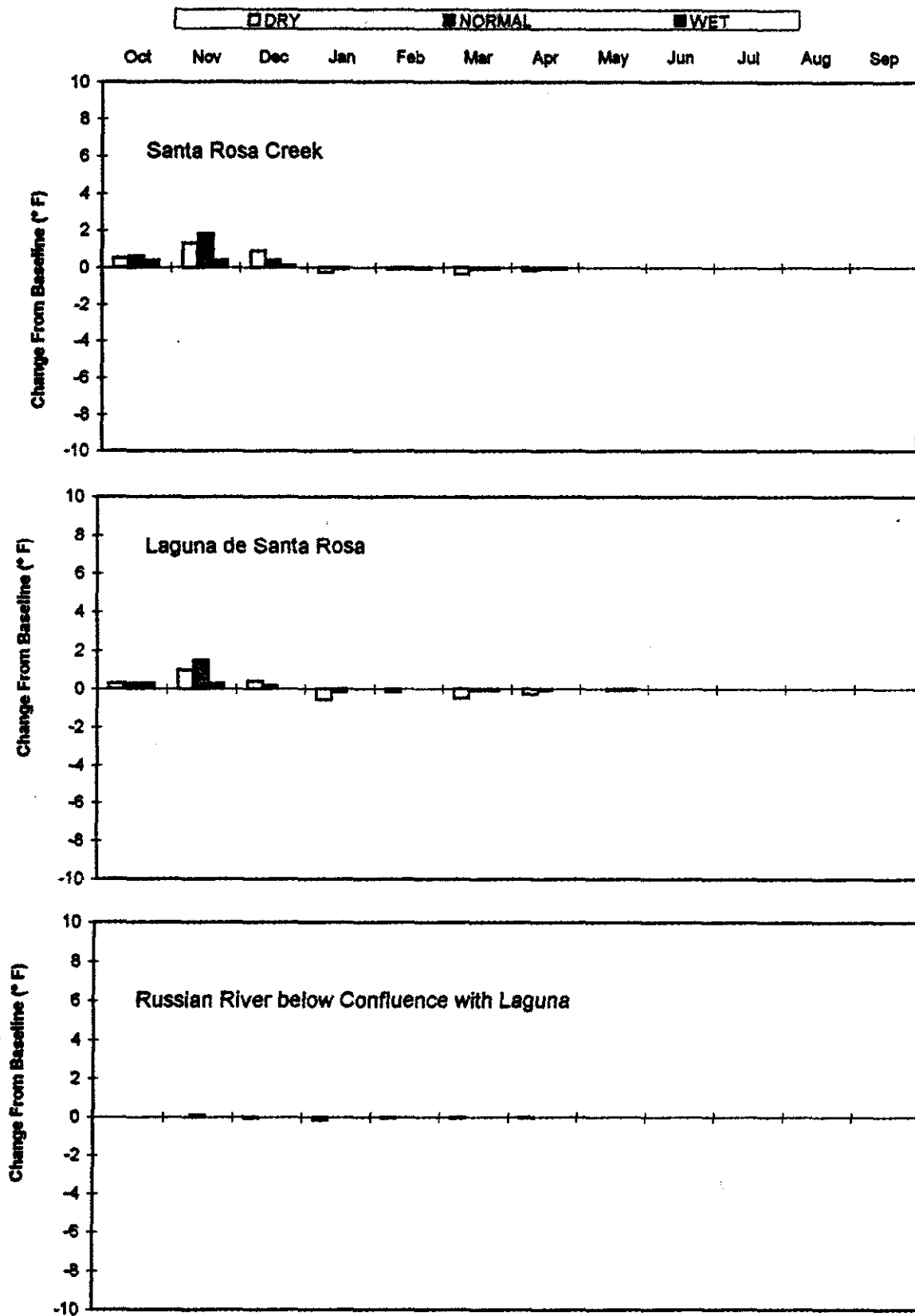


Figure 4-22. Discharge Impacts on Average Monthly Temperature - 20% Discharge to the Russian River
Zero Discharge Baseline - Project Operations



**Figure 4-22. Discharge Impacts on Average Monthly Temperature - No Project
Zero Discharge Baseline - Project Operations**



**Figure 4-22. Discharge Impacts on Average Monthly Temperature - Geysers
Zero Discharge Baseline - Project Operations**

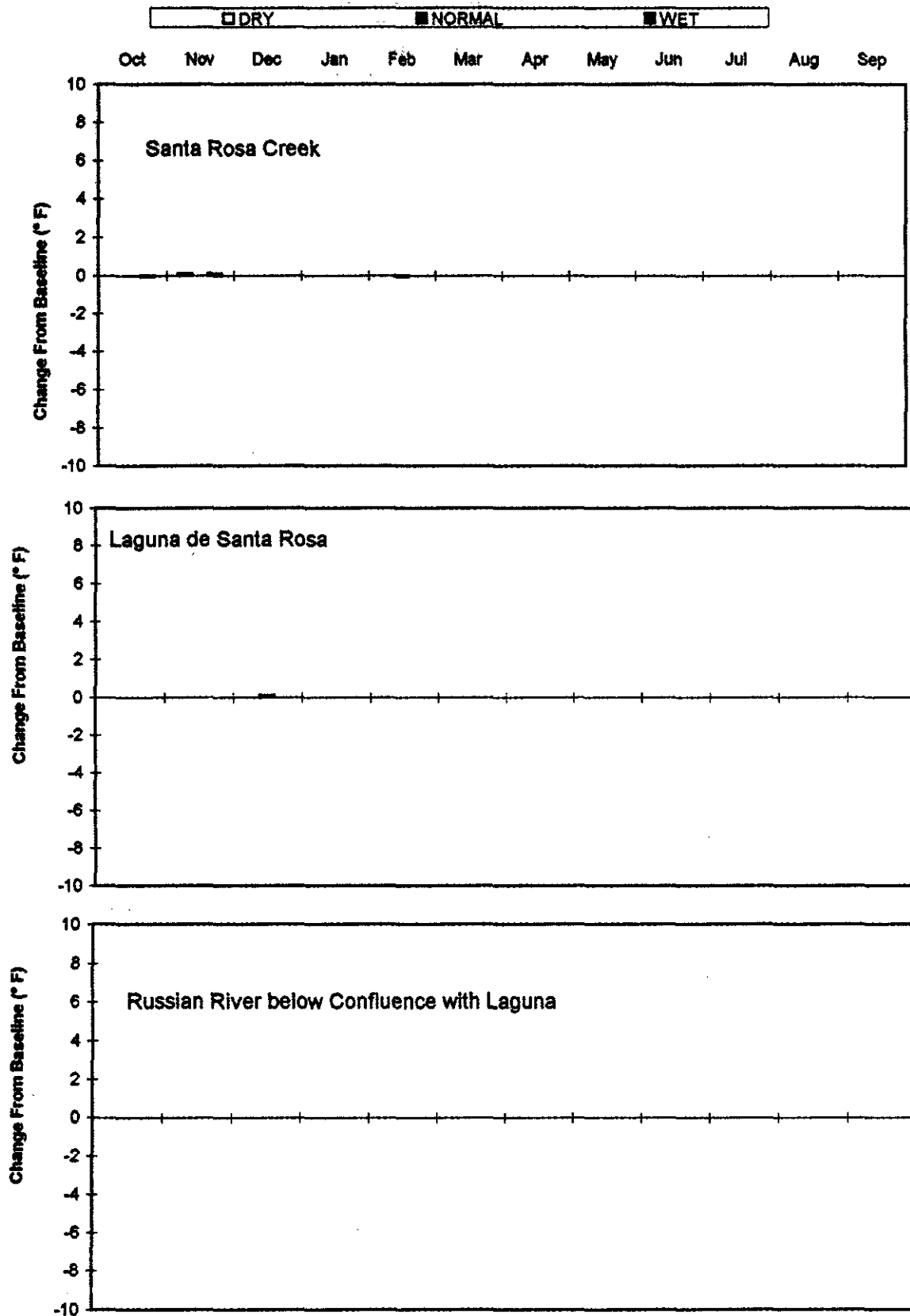


Figure 4-23. Project and Mitigation Storage Curves

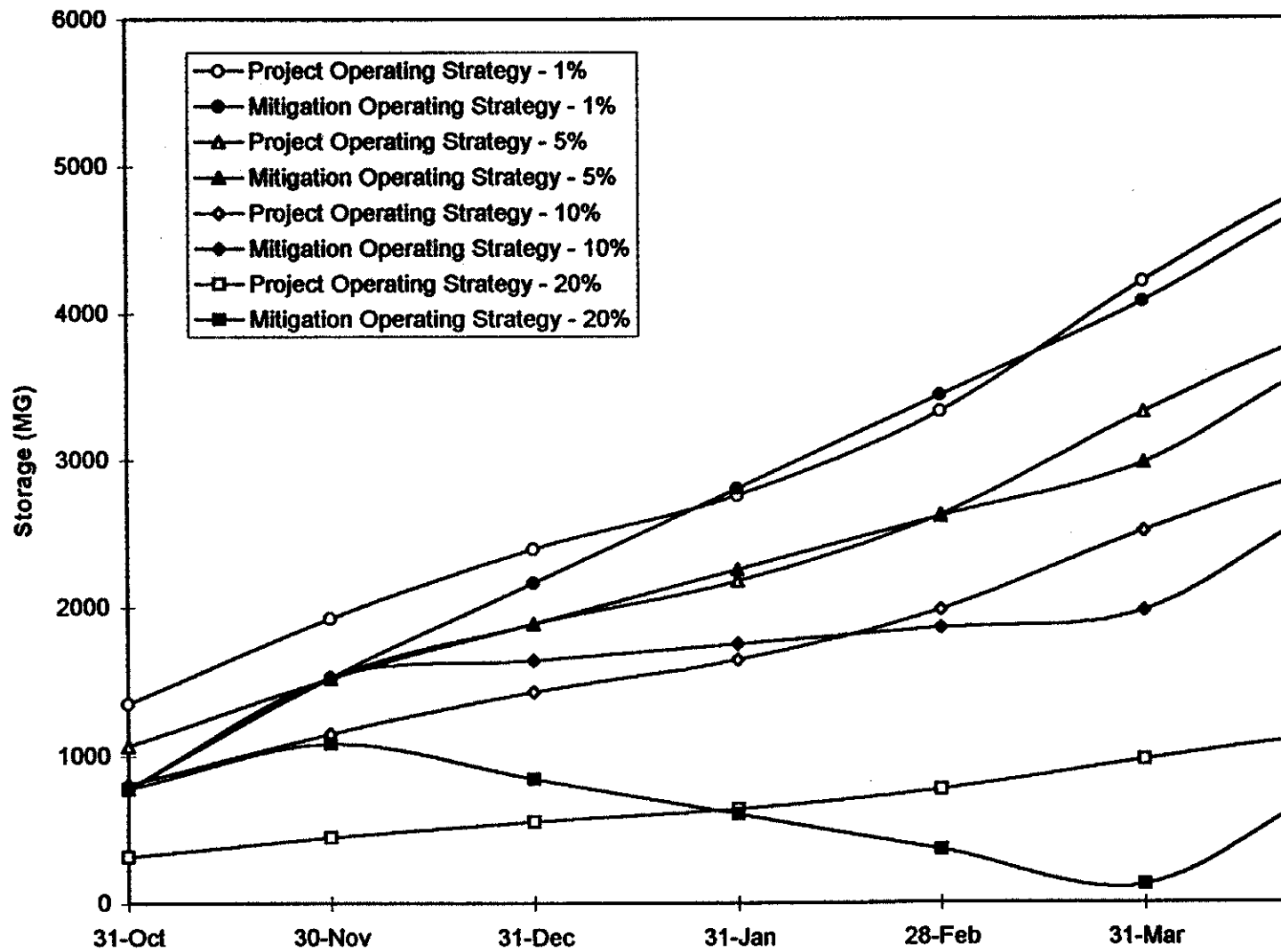
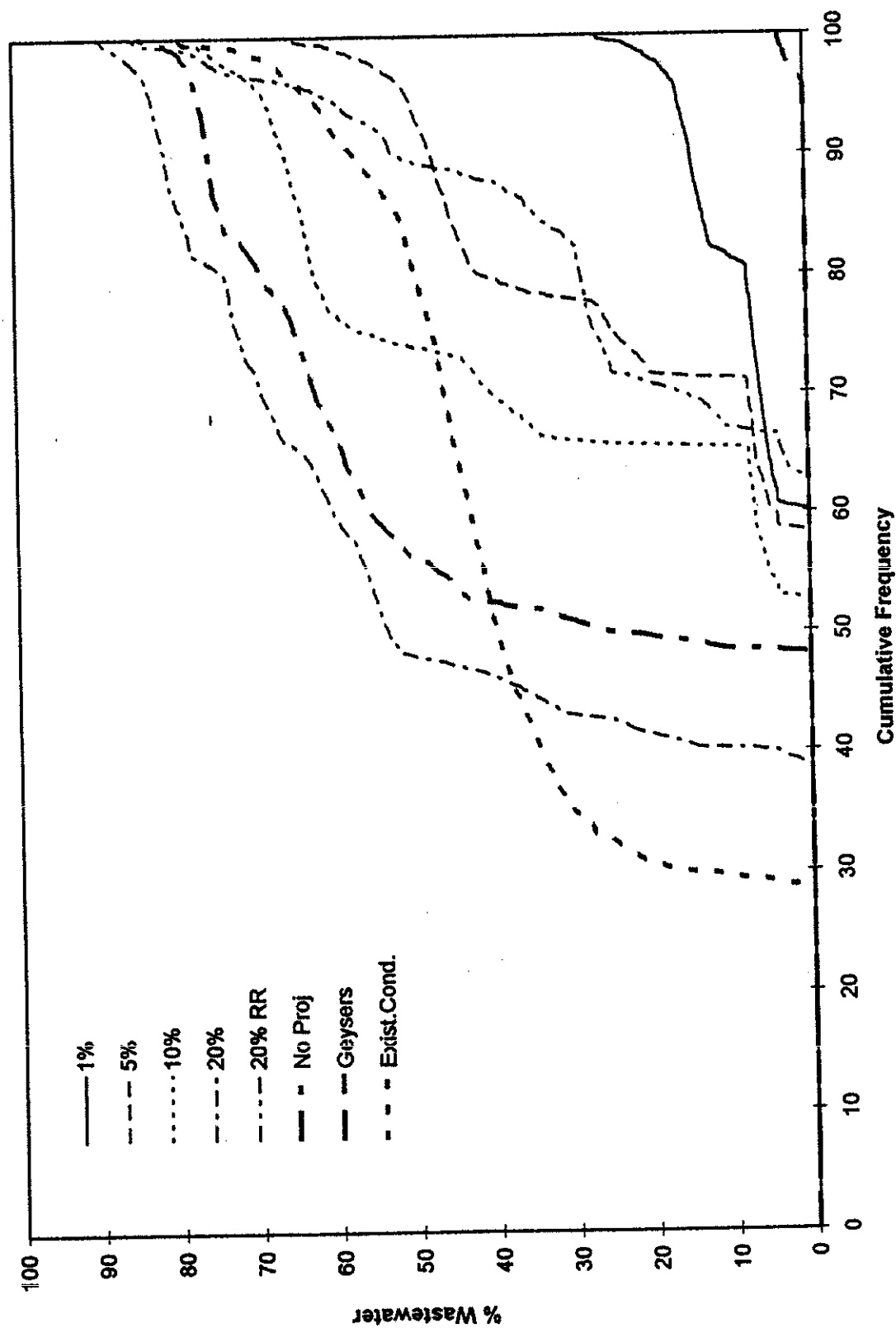


Figure 4-24. Distribution of Reclaimed Water Concentrations During the Discharge Season in a dry year (1976)
Santa Rosa Creek - Mitigation Operation



**Figure 4-25. Distribution of Reclaimed Water Concentrations During the Discharge Season in a normal year
(1961)
Santa Rosa Creek - Mitigation Operation**

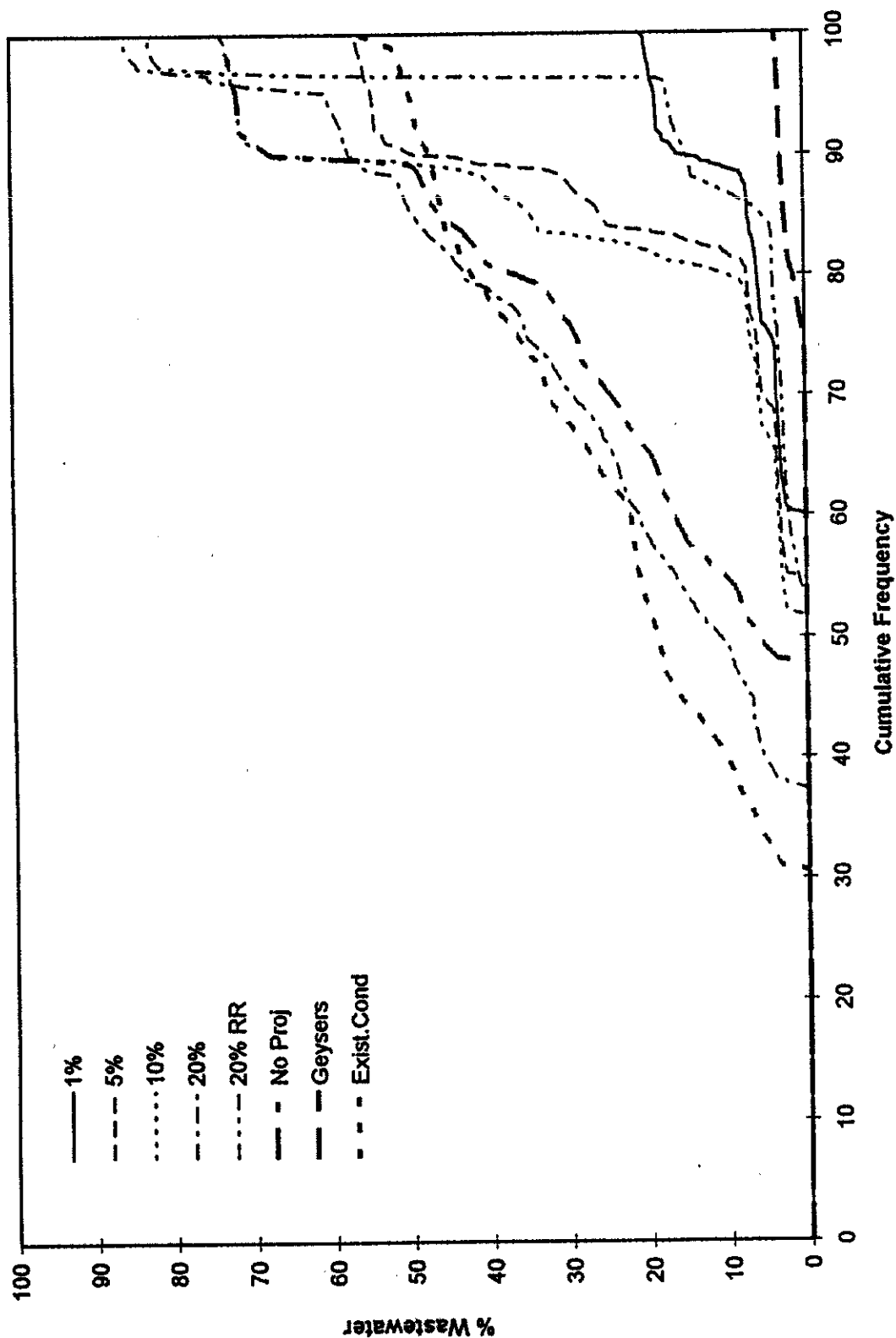
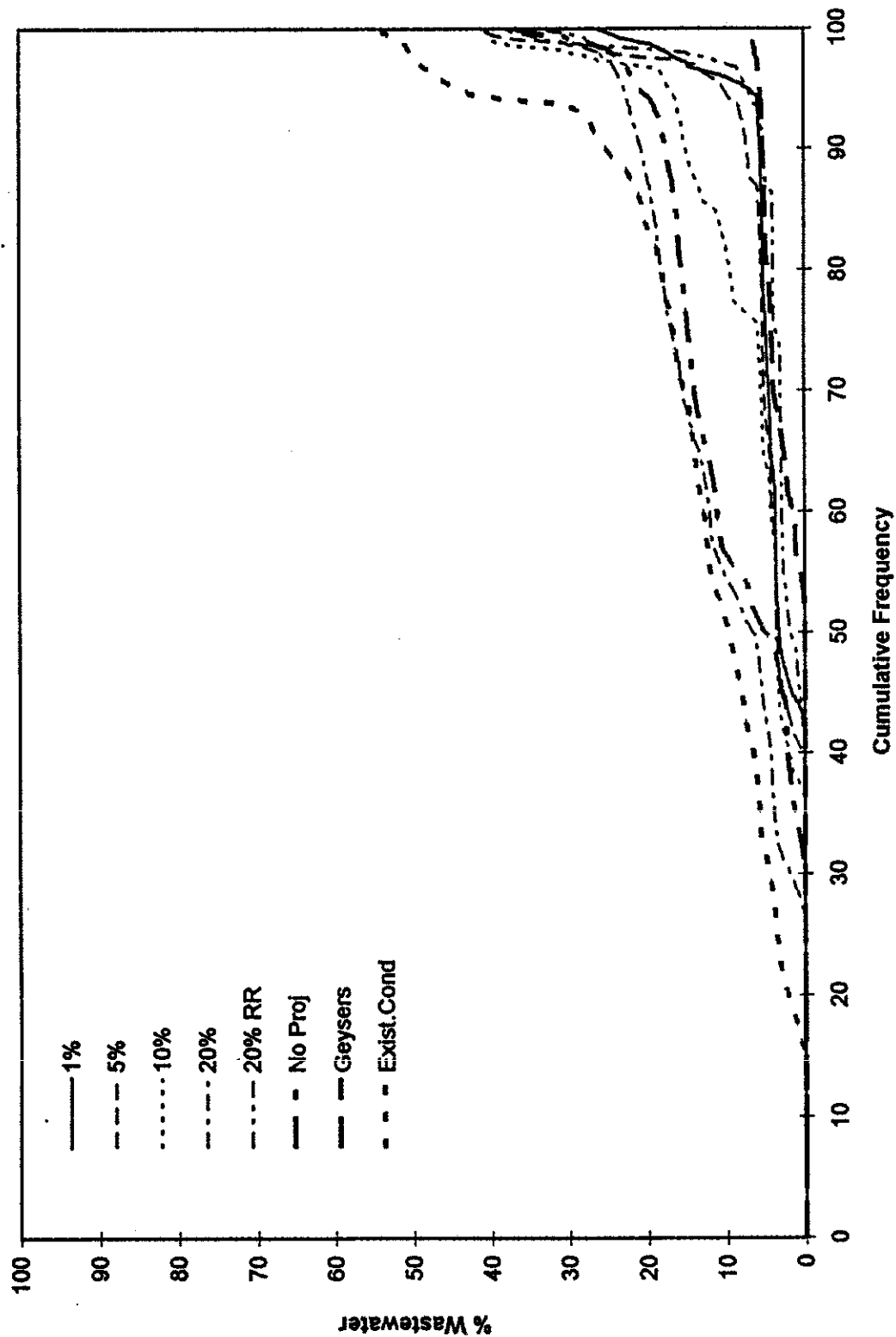


Figure 4-26. Distribution of Reclaimed Water Concentrations During the Discharge Season in a wet year (1982)
Santa Rosa Creek - Mitigation Operation



**Figure 4-28. Distribution of Reclaimed Water Concentrations During the Discharge Season
(1961)**
Laguna de Santa Rosa - Mitigation Operation

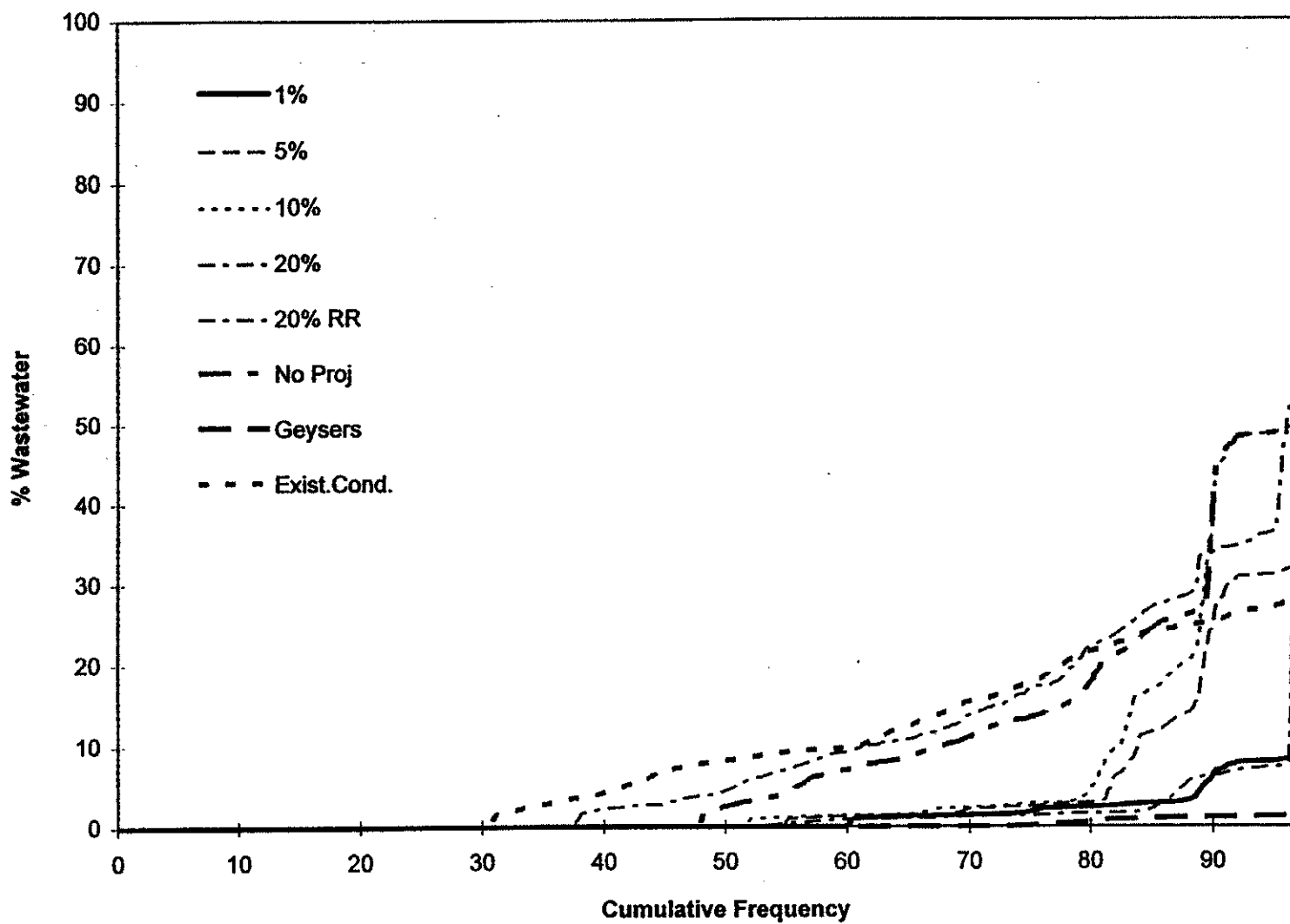


Figure 4-27. Distribution of Reclaimed Water Concentrations During the Discharge Season in a dry year (1976)
Laguna de Santa Rosa - Mitigation Operation

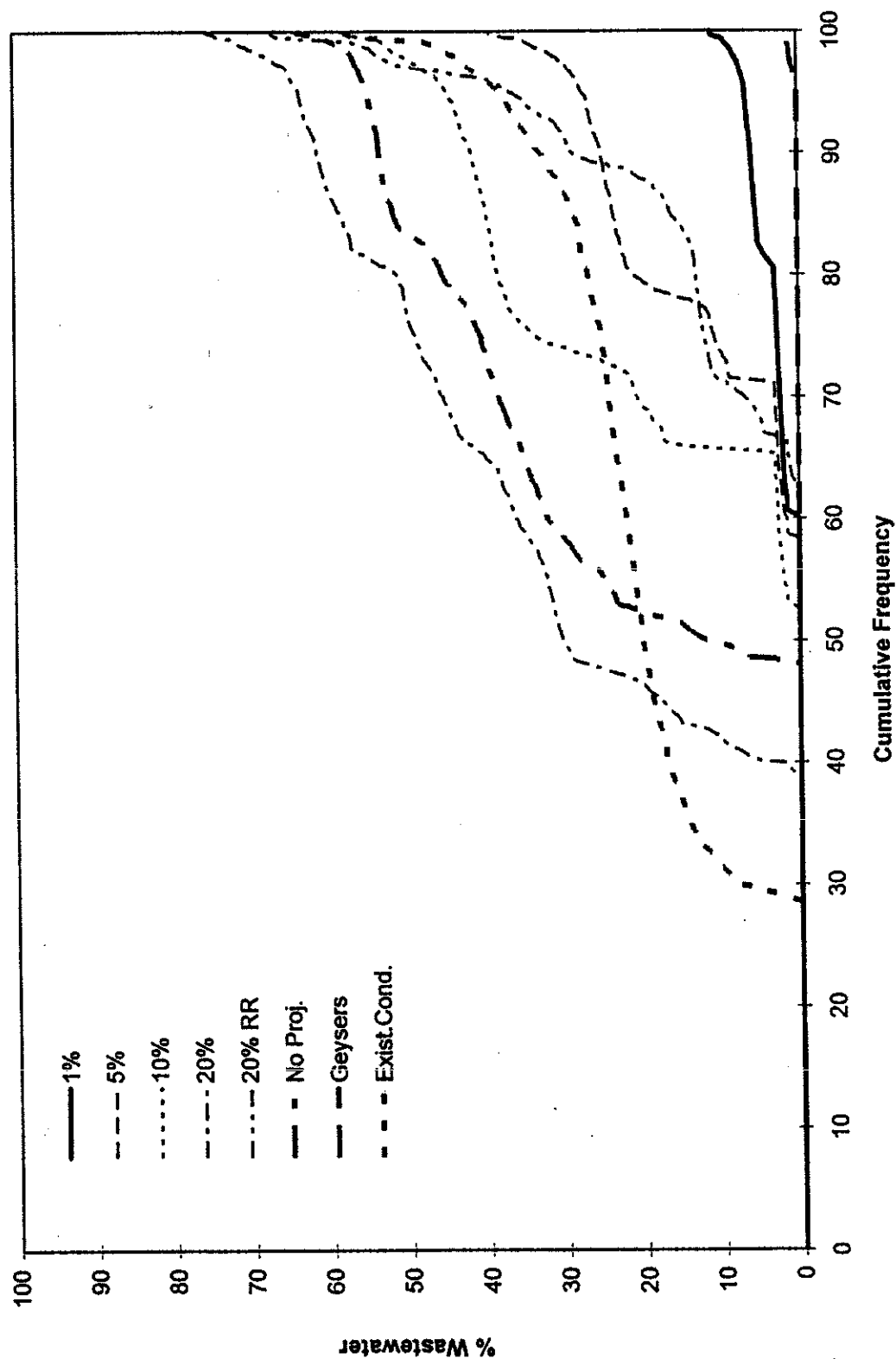


Figure 4-29. Distribution of Reclaimed Water Concentrations During the Discharge Season in a wet year (1982)
Laguna de Santa Rosa - Mitigation Operation

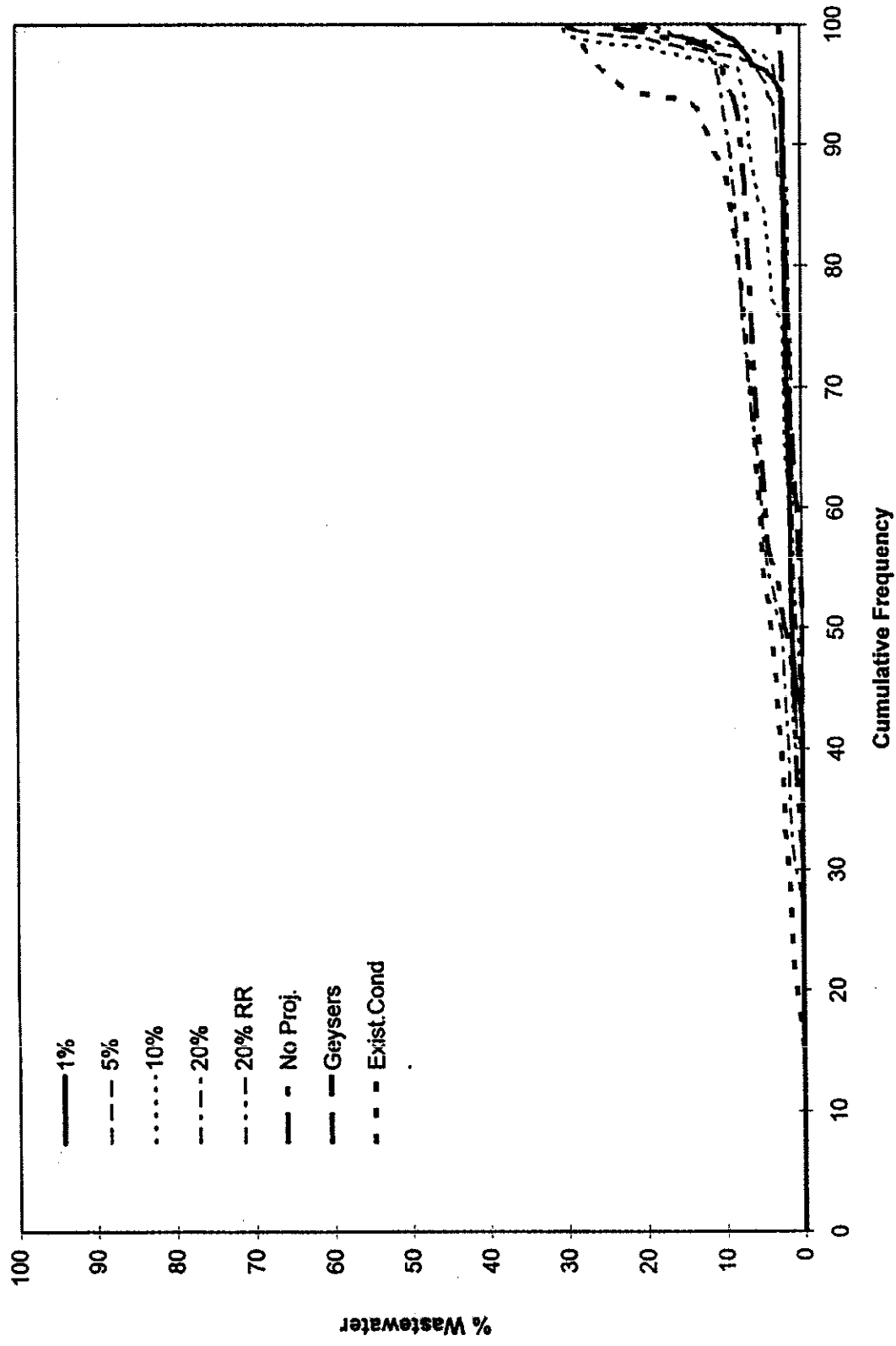
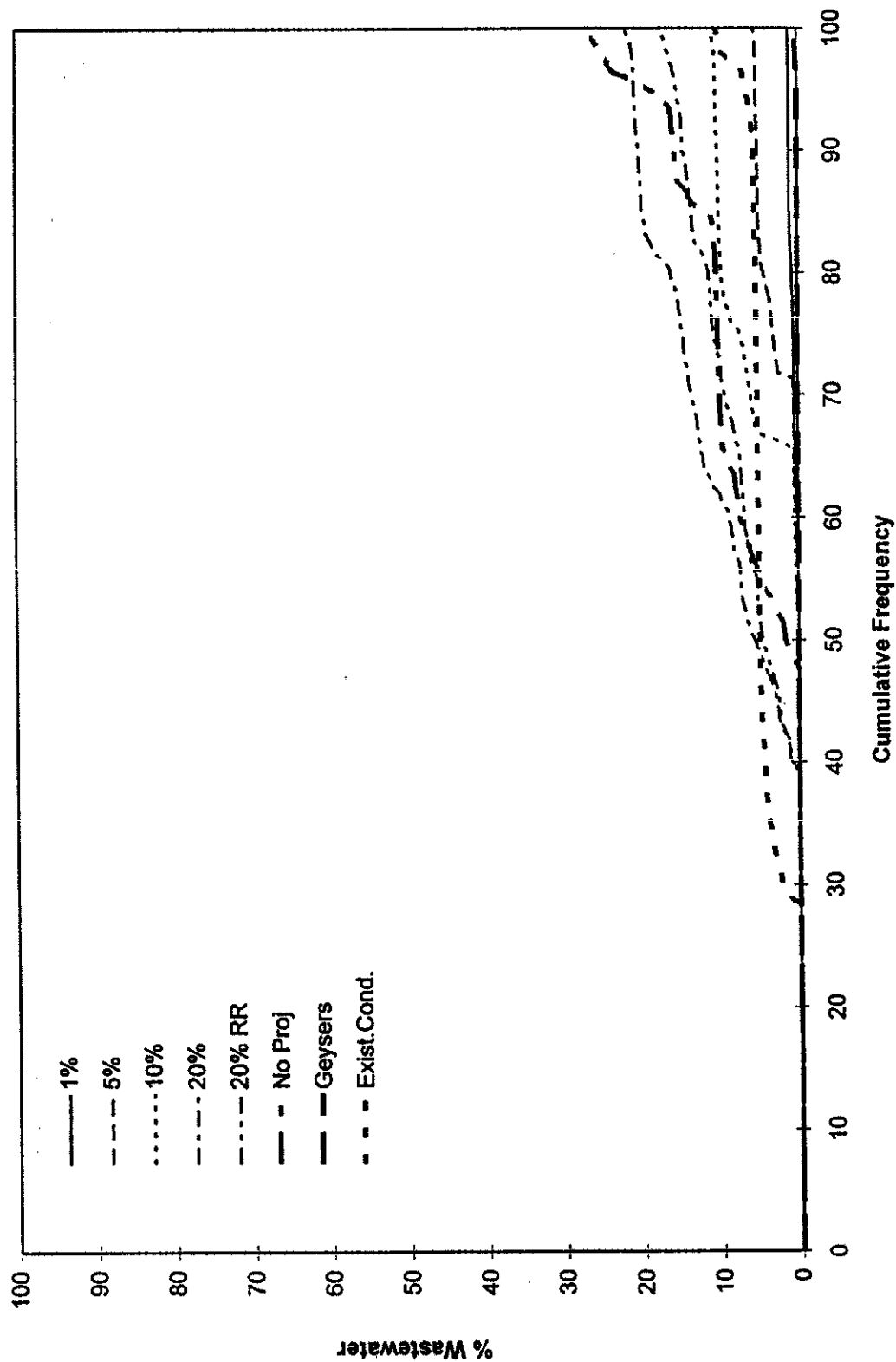
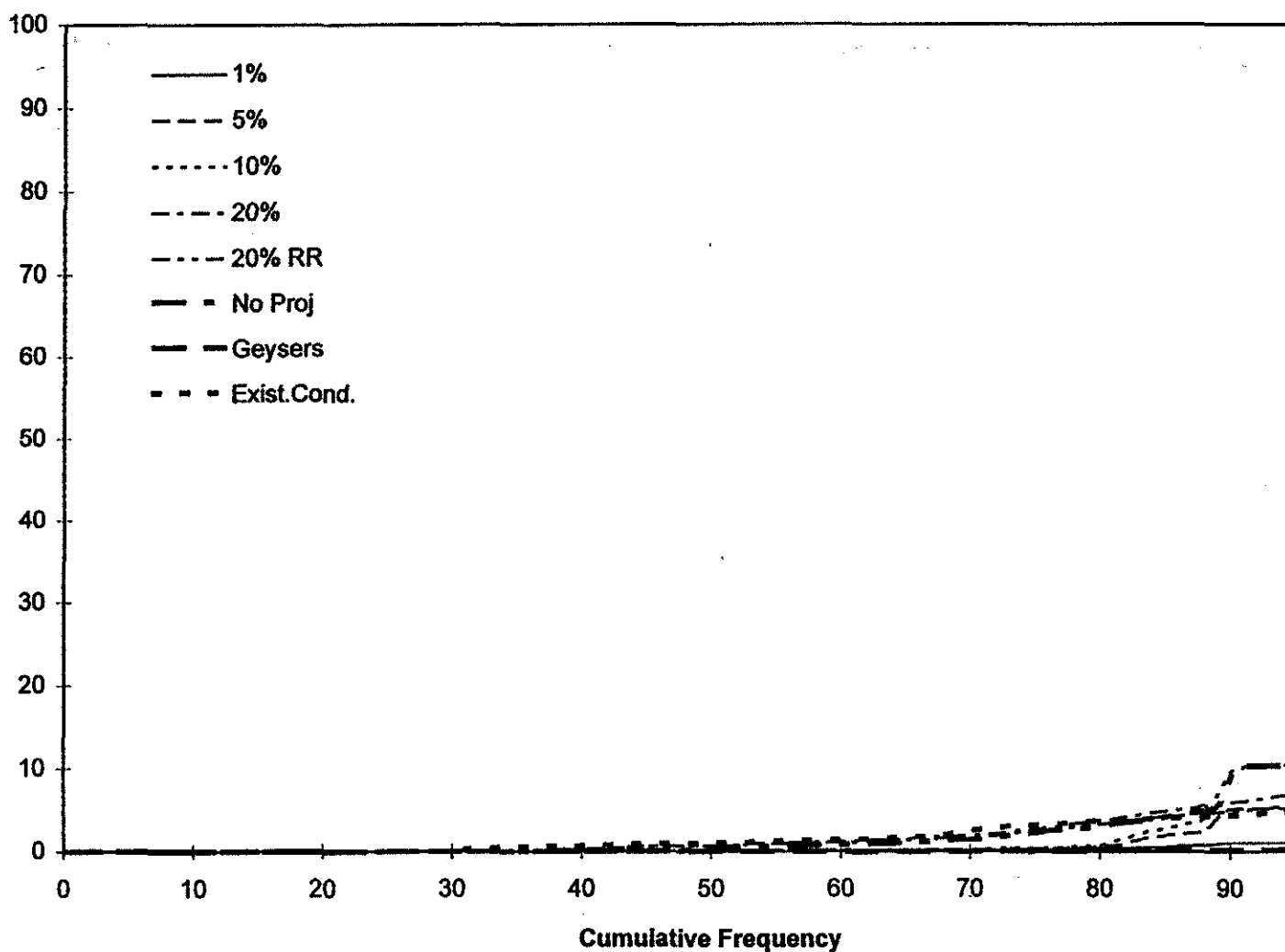


Figure 4-30. Distribution of Reclaimed Water Concentrations During the Discharge Season in a dry year (1976)
Russian River Below Laguna - Mitigation Operation



**Figure 4-31. Distribution of Reclaimed Water Concentrations During the Discharge
in a normal year (1961)
Russian River Below Laguna - Mitigation Operation**



**Figure 4-32. Distribution of Reclaimed Water Concentrations During the Discharge Season
Russian River Below Laguna - Mitigation Operations**

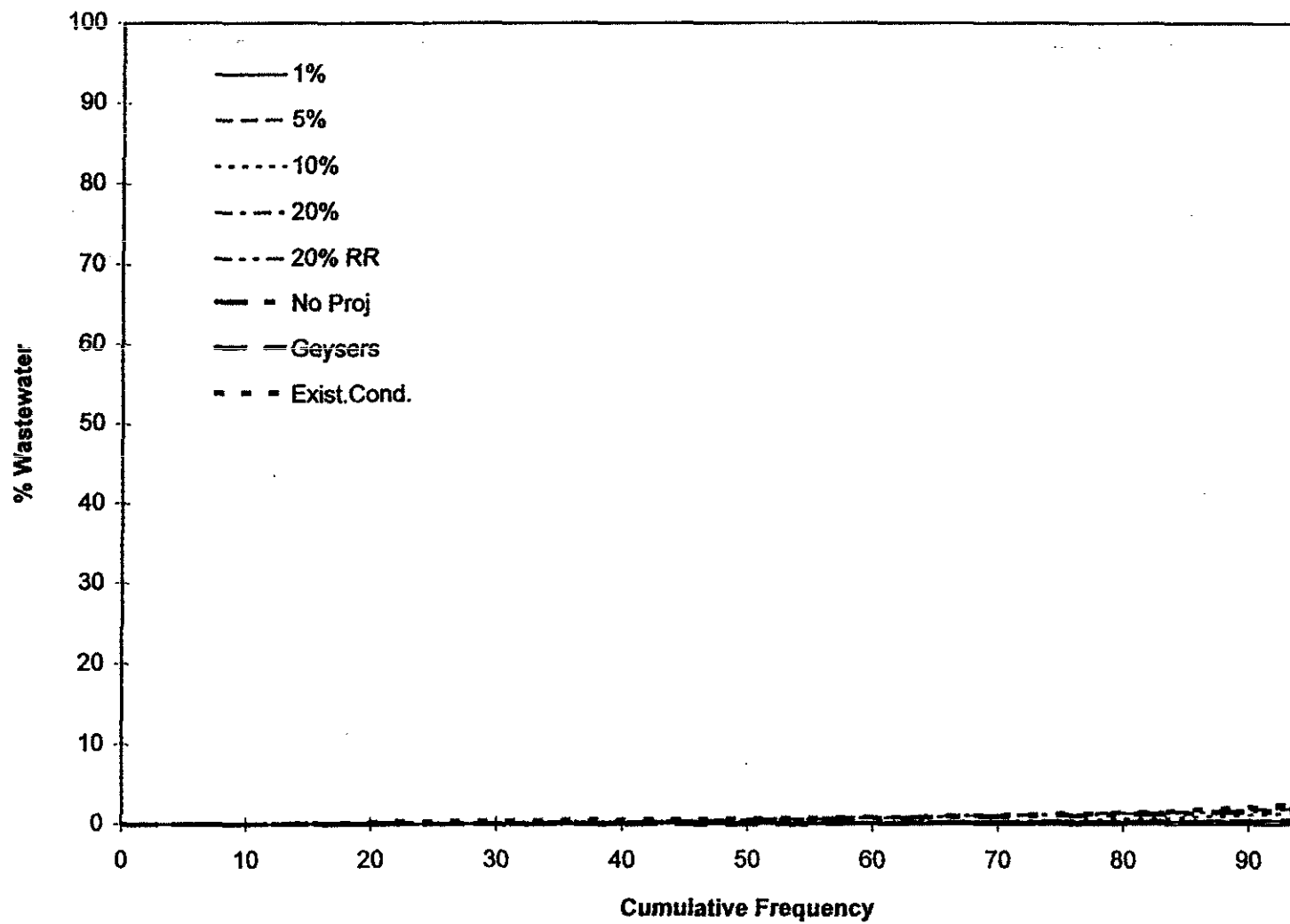
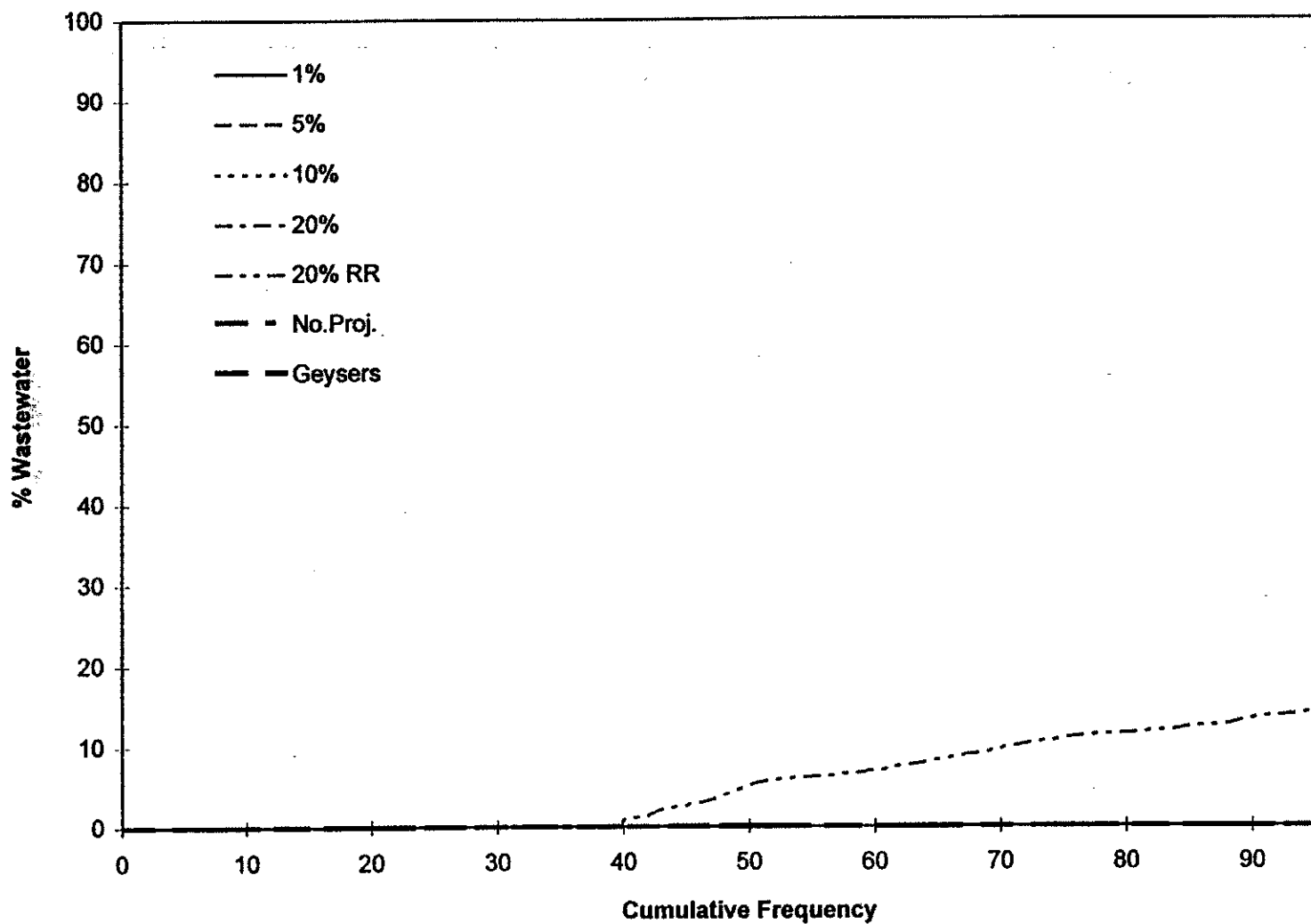


Figure 4-33. Distribution of Reclaimed Water Concentrations During the Discharge Season in Russian River Above Laguna - Mitigation Operation



**Figure 4-34. Distribution of Reclaimed Water Concentrations During the Discharge
in a normal year (1961)
Russian River Above Laguna - Mitigation Operation**

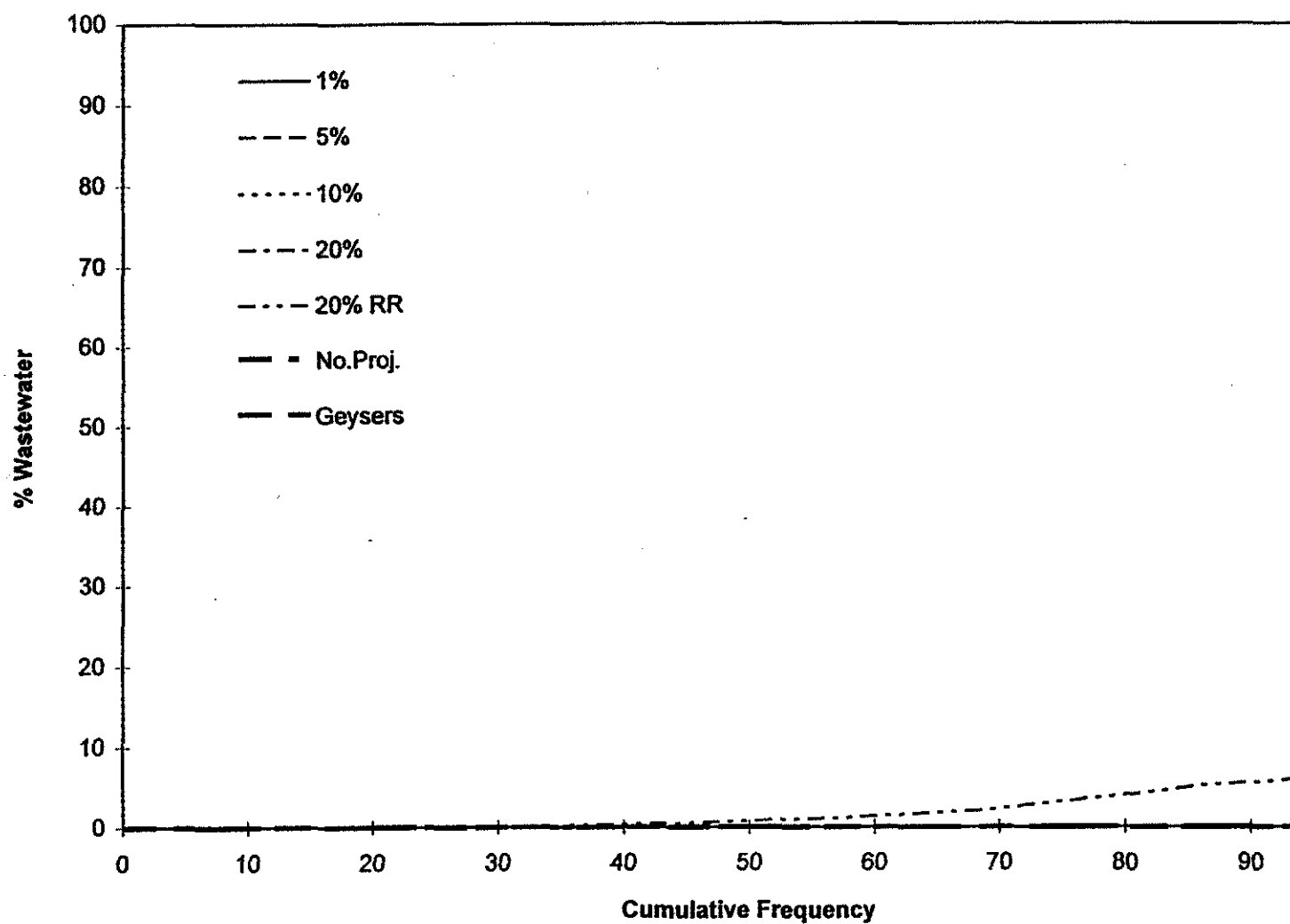
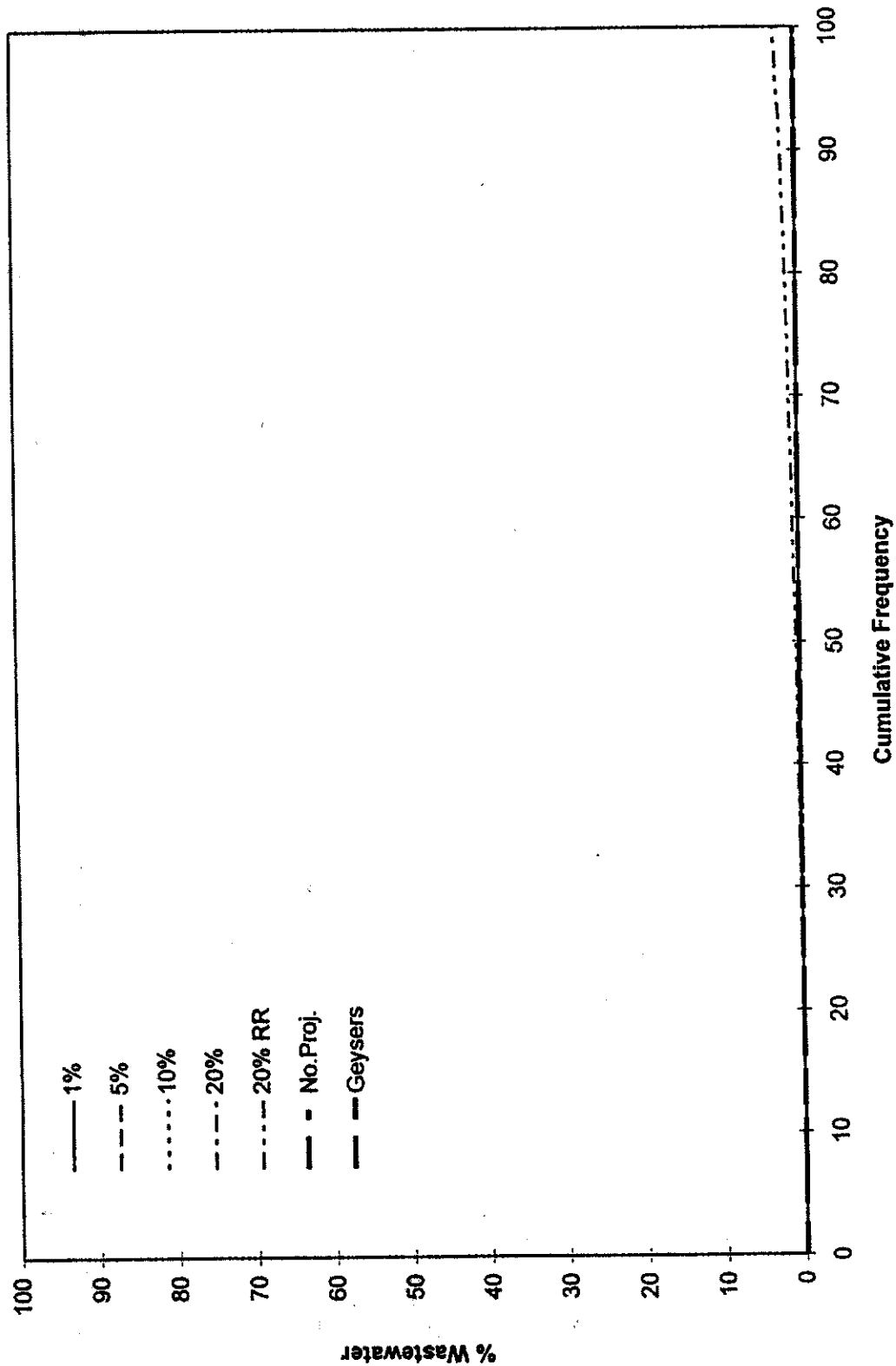
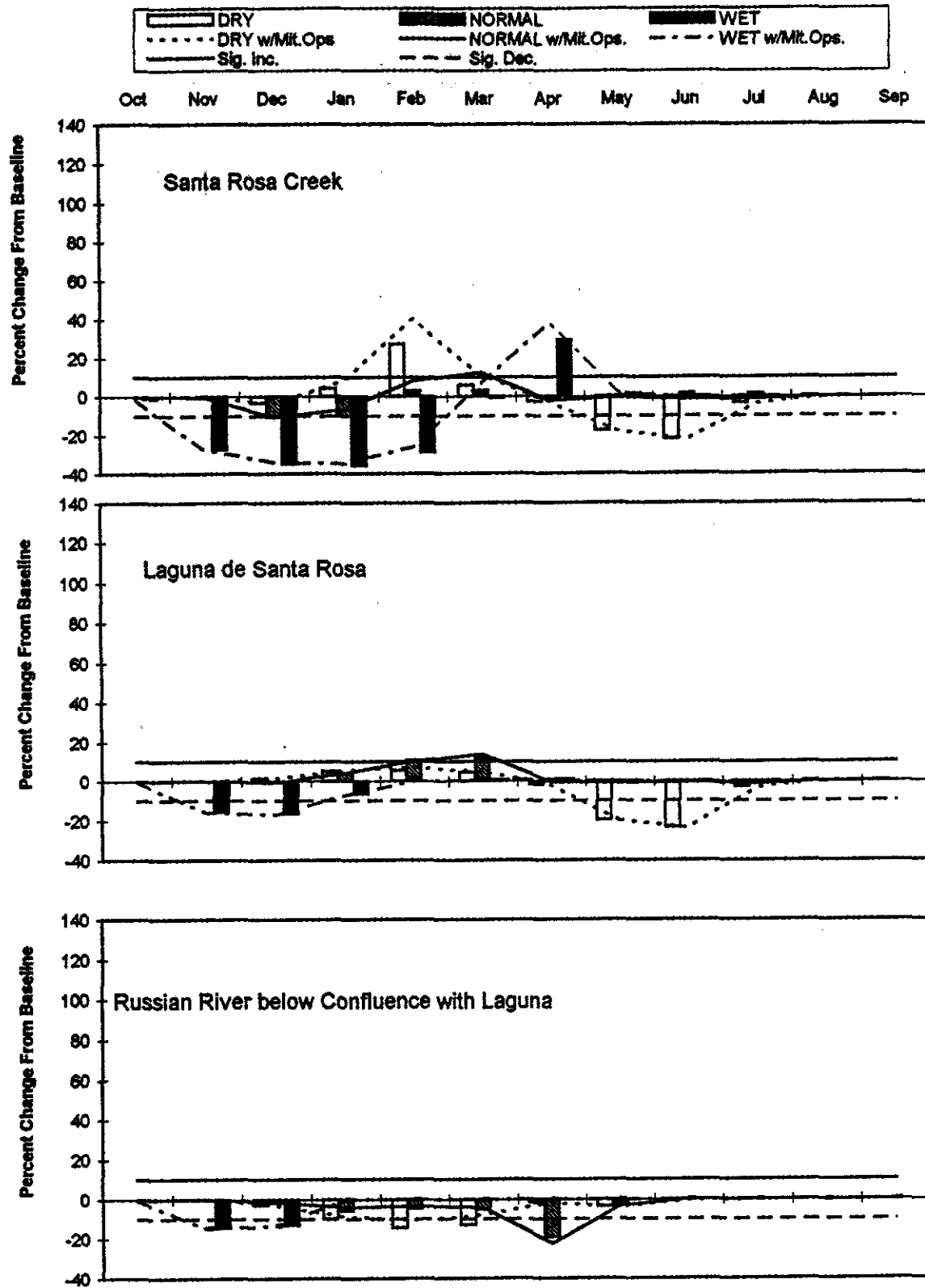


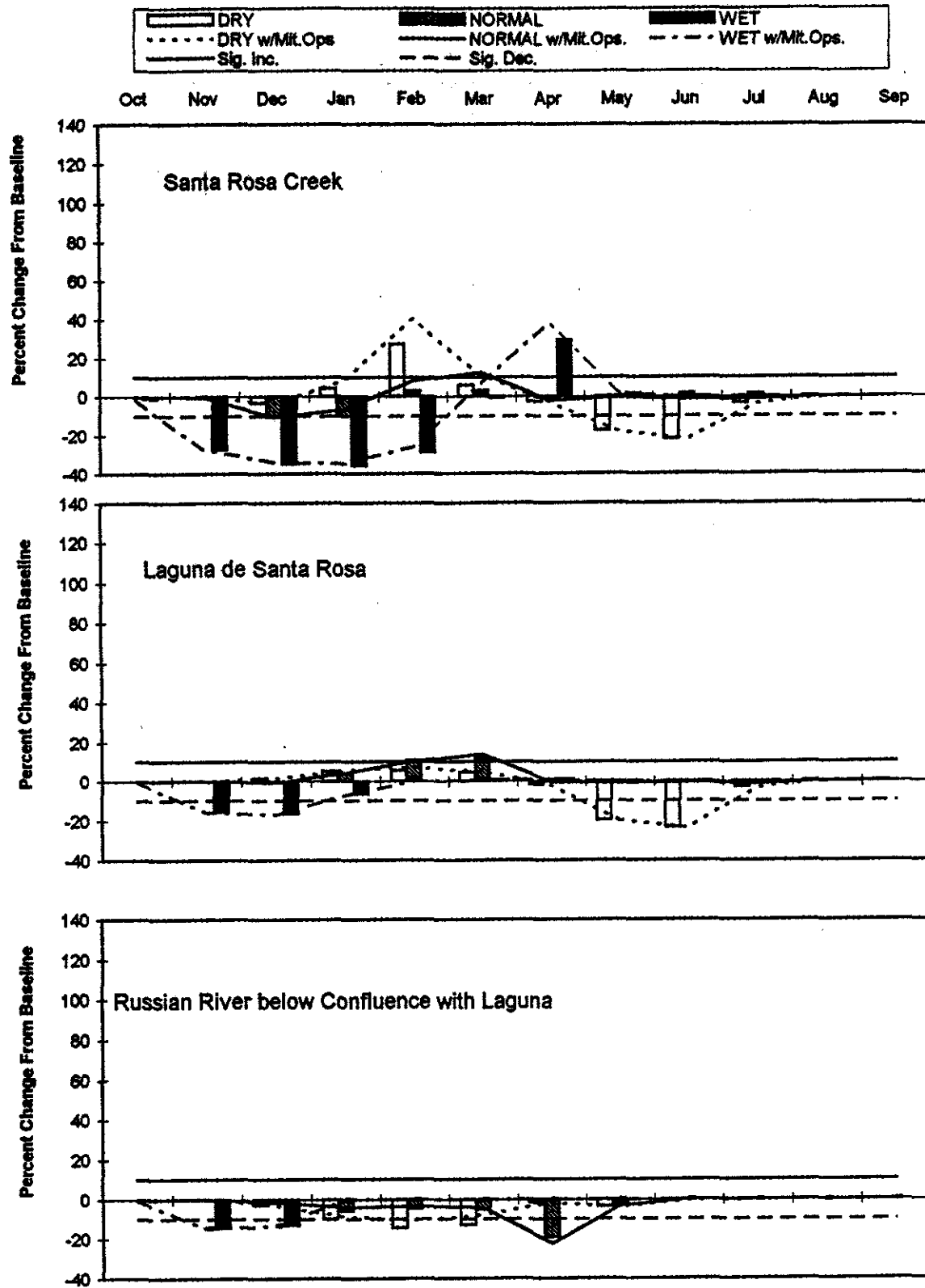
Figure 4-35. Distribution of Reclaimed Water Concentrations During the Discharge Season in a wet year (1982)
Russian River Above Laguna - Mitigation Operation



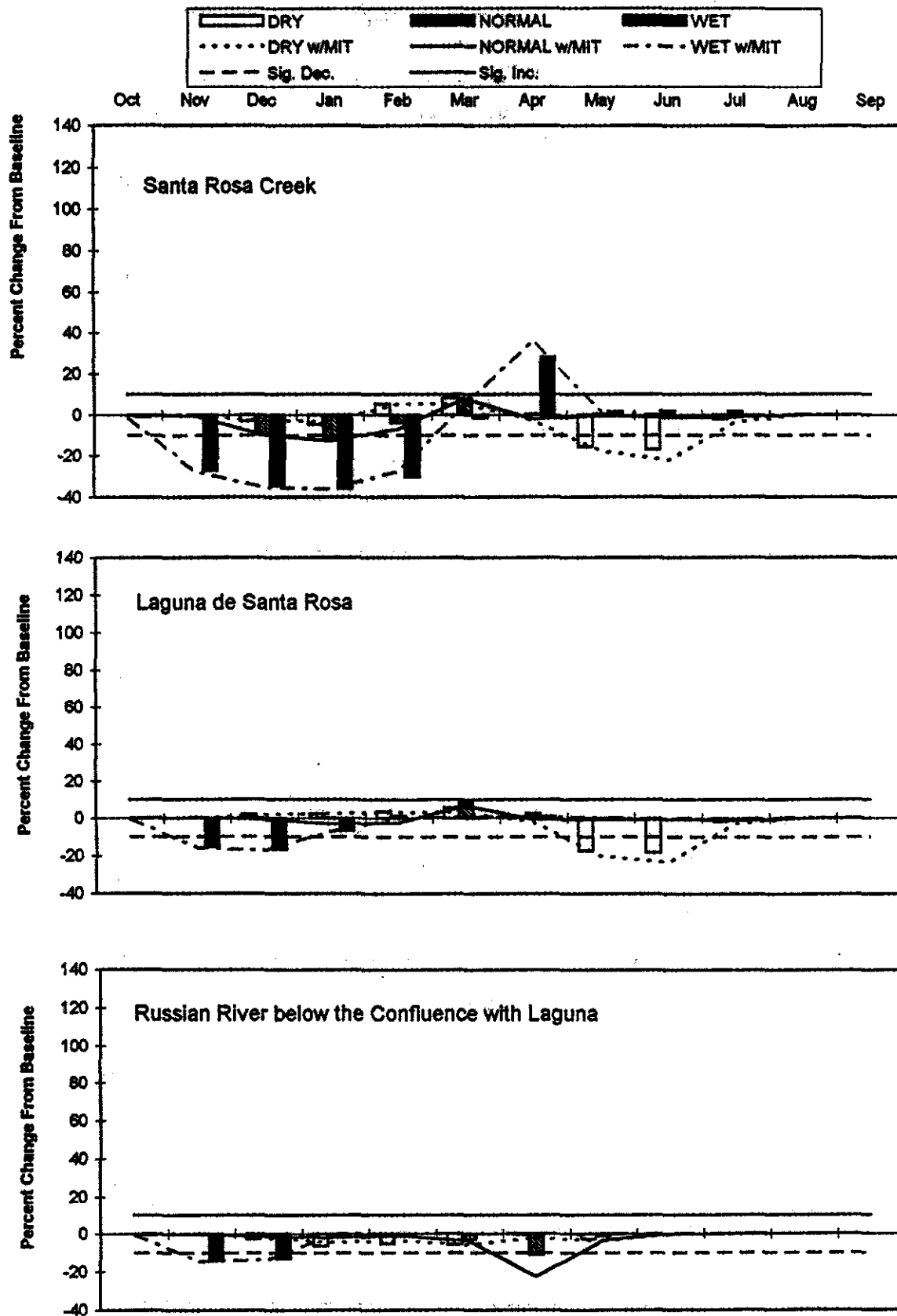
**Figure 4-36. Discharge Impacts on Benthic Algae - 1% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations**



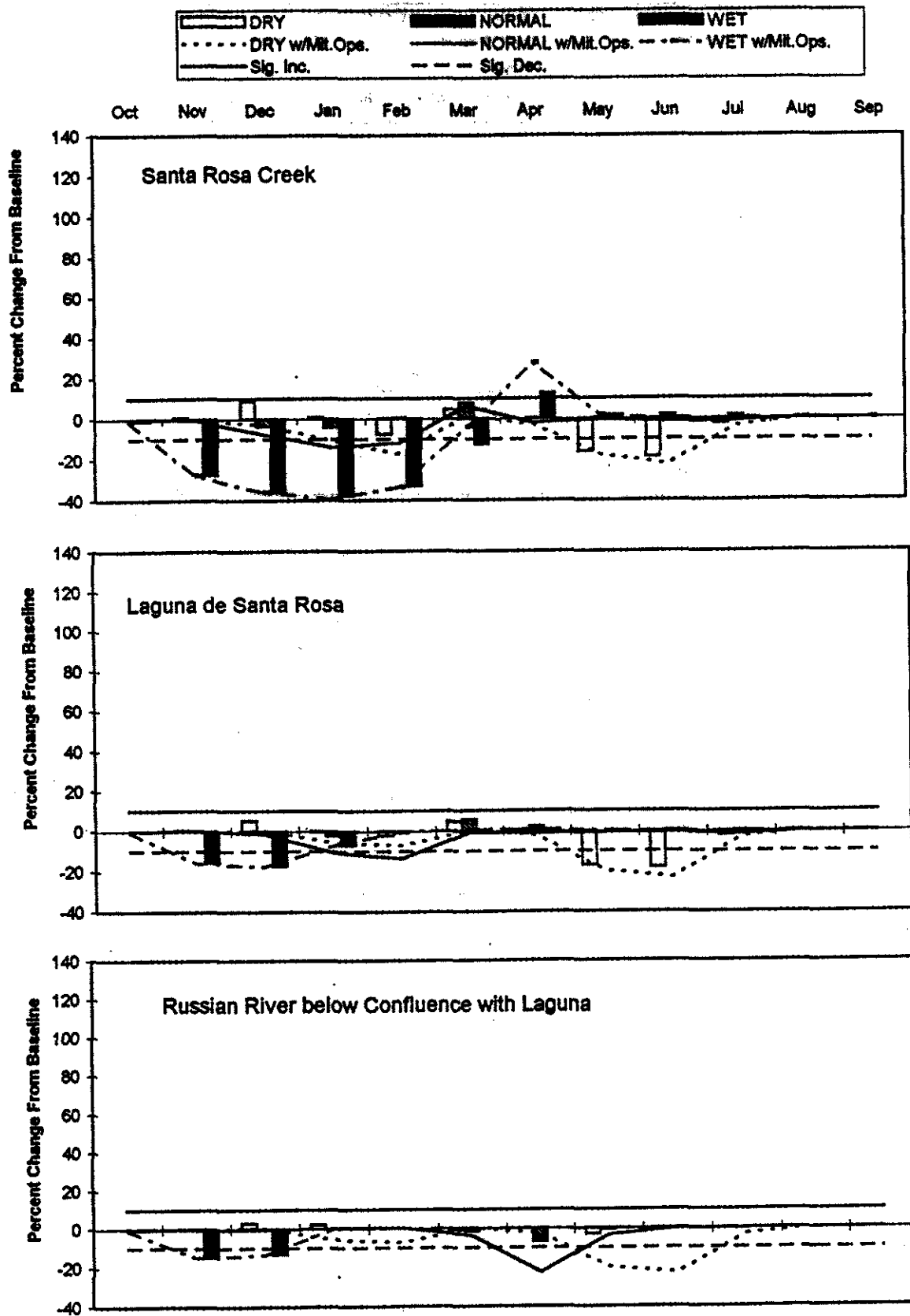
**Figure 4-36. Discharge Impacts on Benthic Algae - 1% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations**



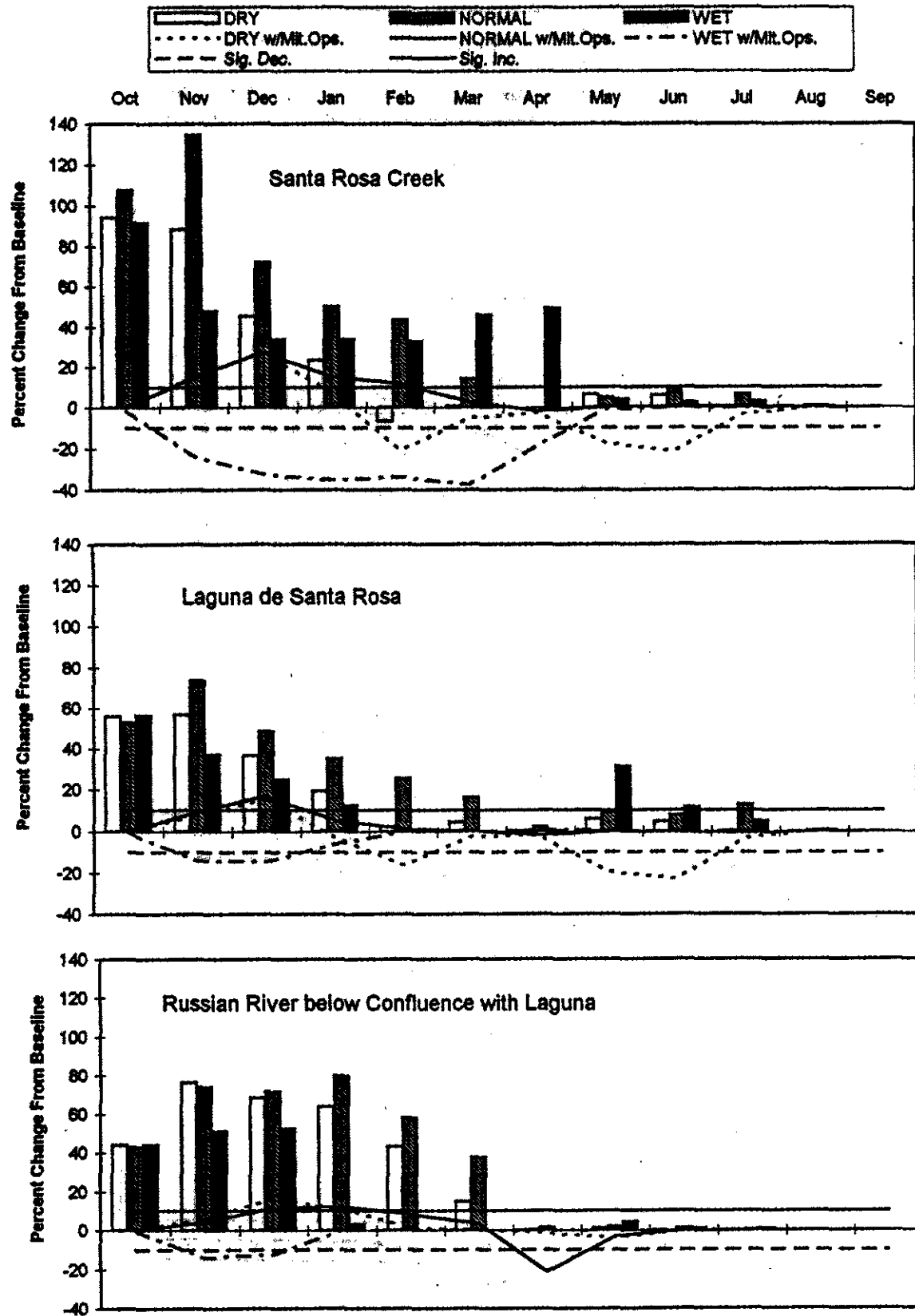
**Figure 4-36. Discharge Impacts on Benthic Algae - 5% Discharge to Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations**



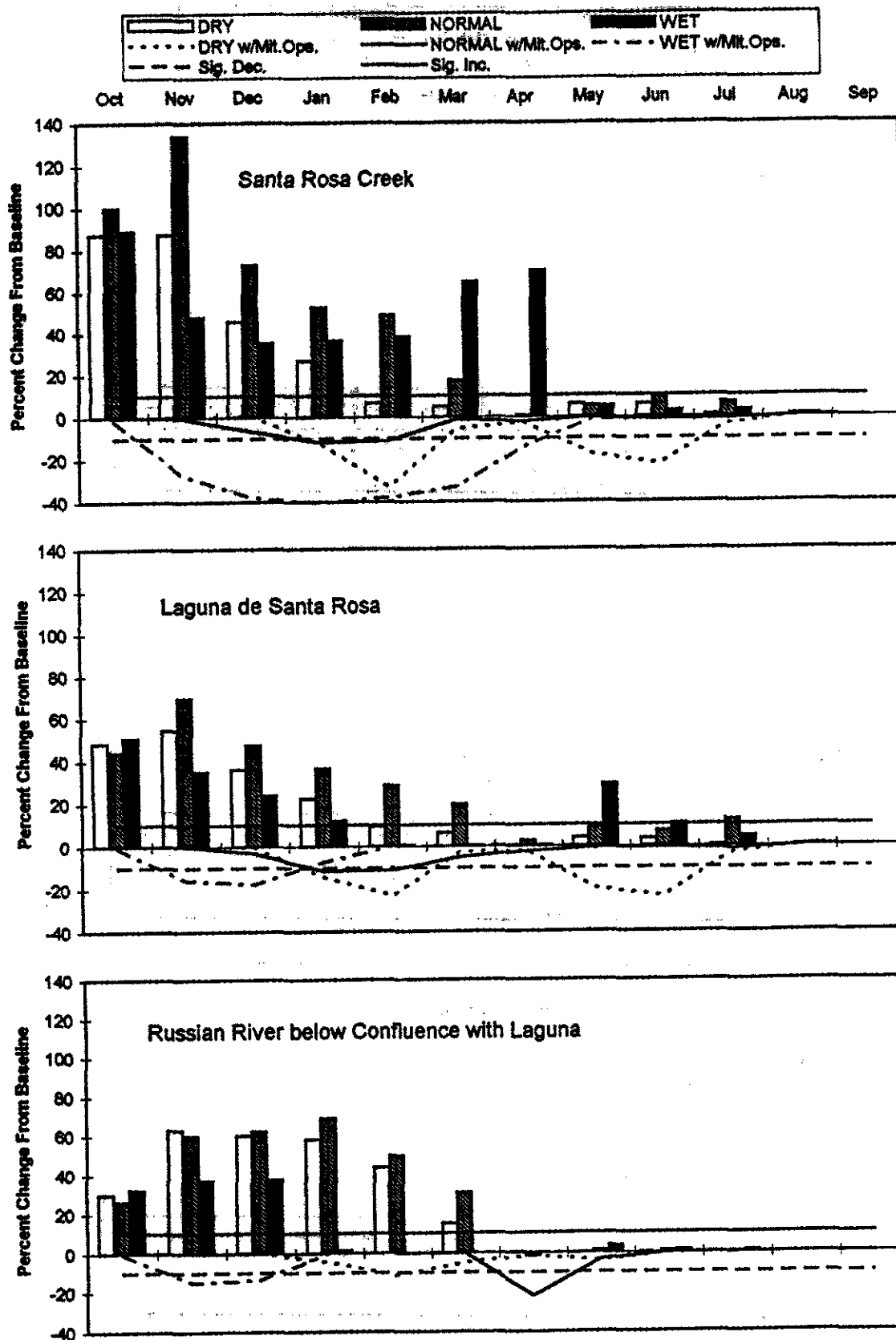
**Figure 4-36. Discharge Impacts on Benthic Algae - 10% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations**



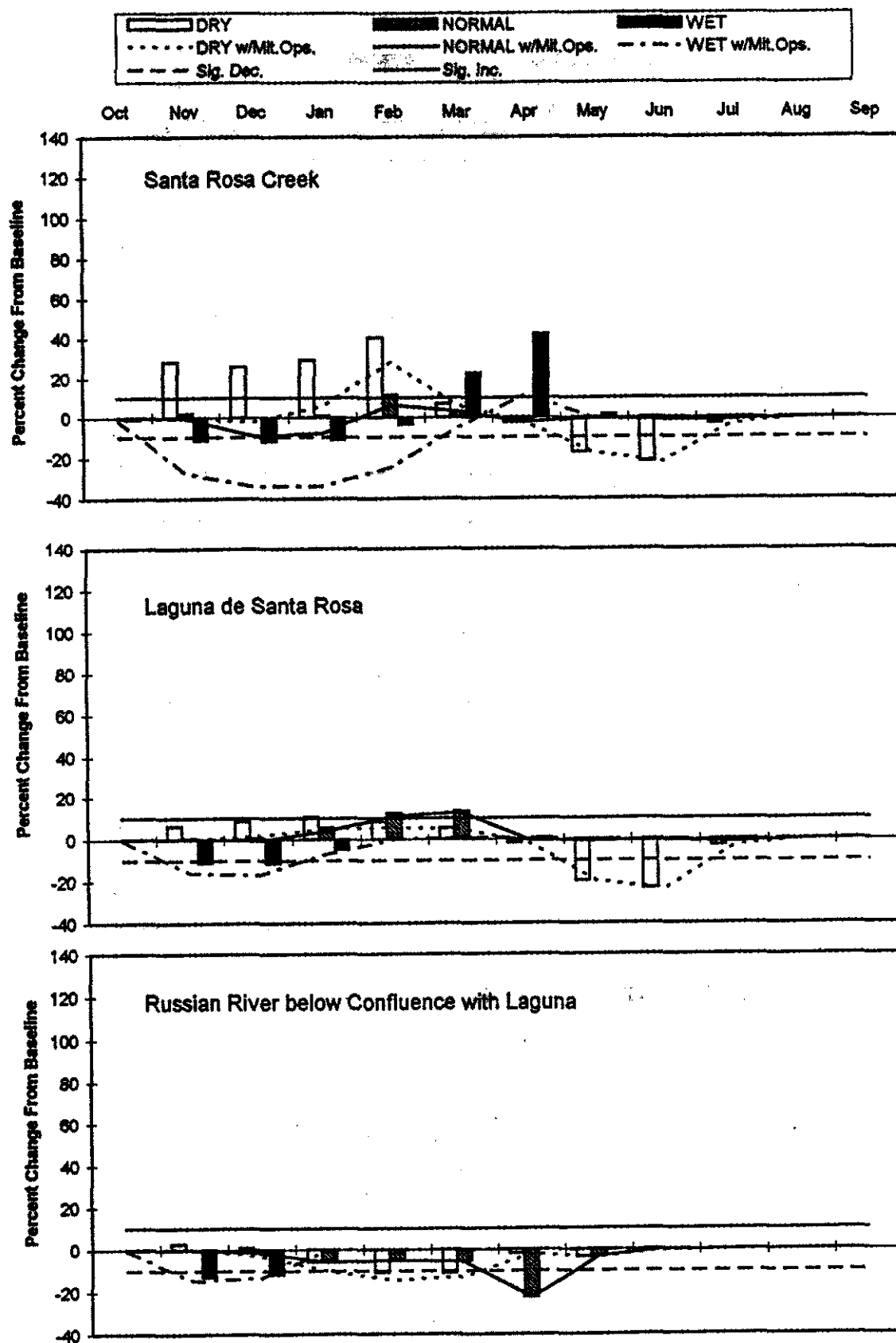
**Figure 4-36. Discharge Impacts on Benthic Algae - 20% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations**



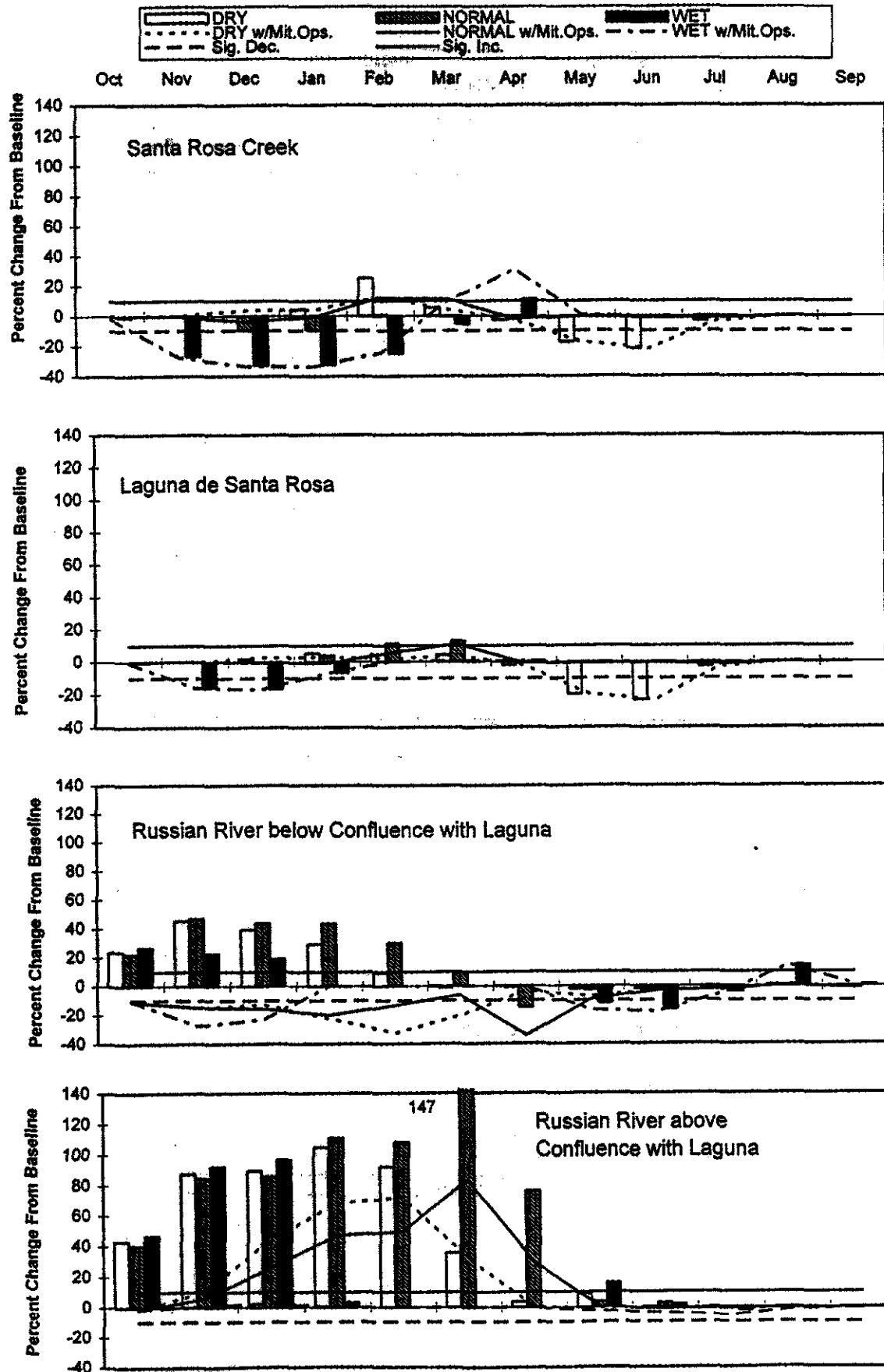
**Figure 4-36. Discharge Impacts on Benthic Algae - No Project Alternative
Existing Conditions Baseline - Project and Mitigation Operations**



**Figure 4-36. Discharge Impacts on Benthic Algae - Geysers Alternative
Existing Conditions Baseline - Project and Mitigation Operations**



**Figure 4-36. Discharge Impacts on Benthic Algae - 20% Discharge to Russian River
Existing Conditions Baseline - Project and Mitigation Operations**



**Figure 4-37. Discharge Impacts on Planktonic Algae - 1% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations**

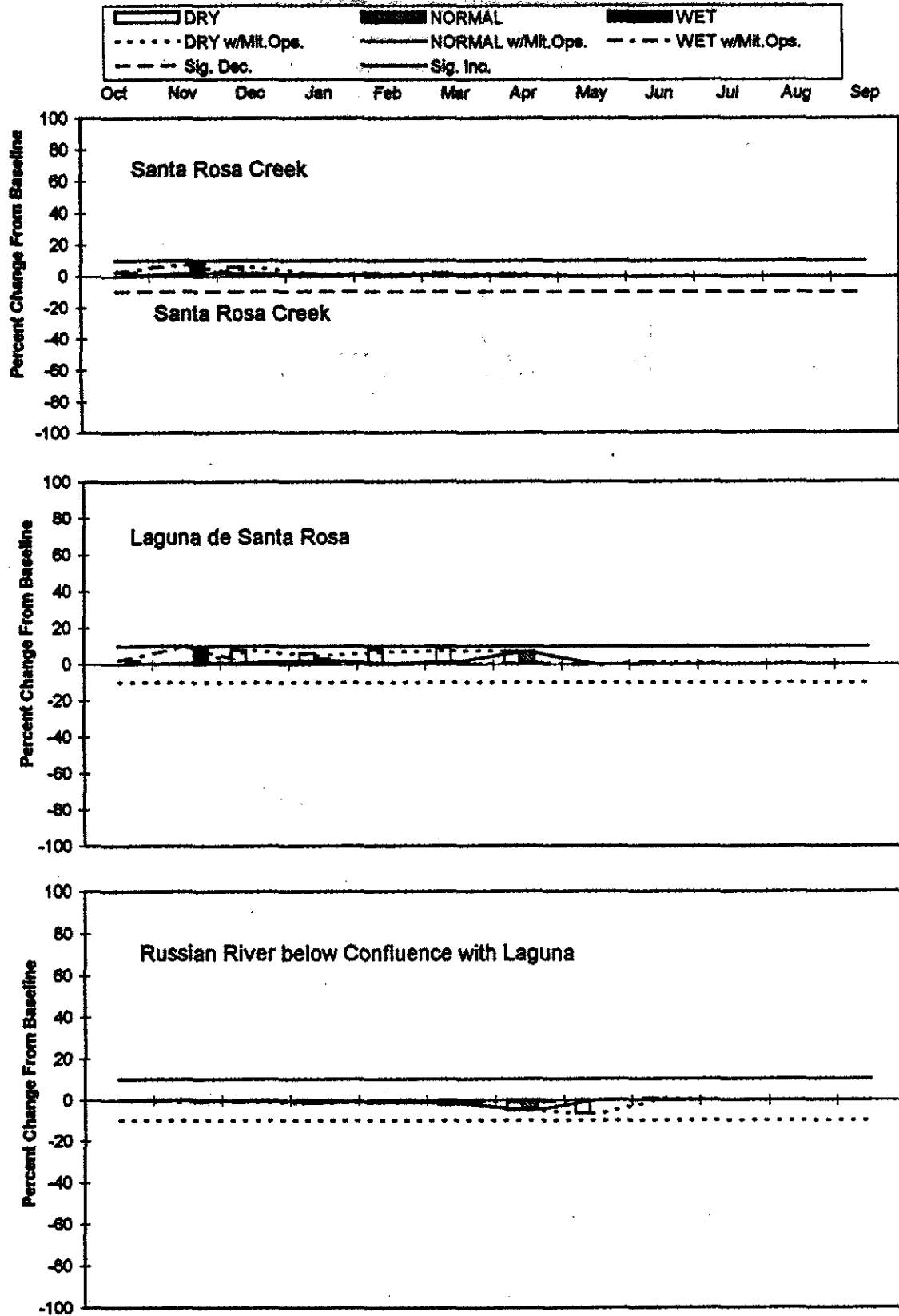


Figure 4-37. Discharge Impacts on Planktonic Algae - 5% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations

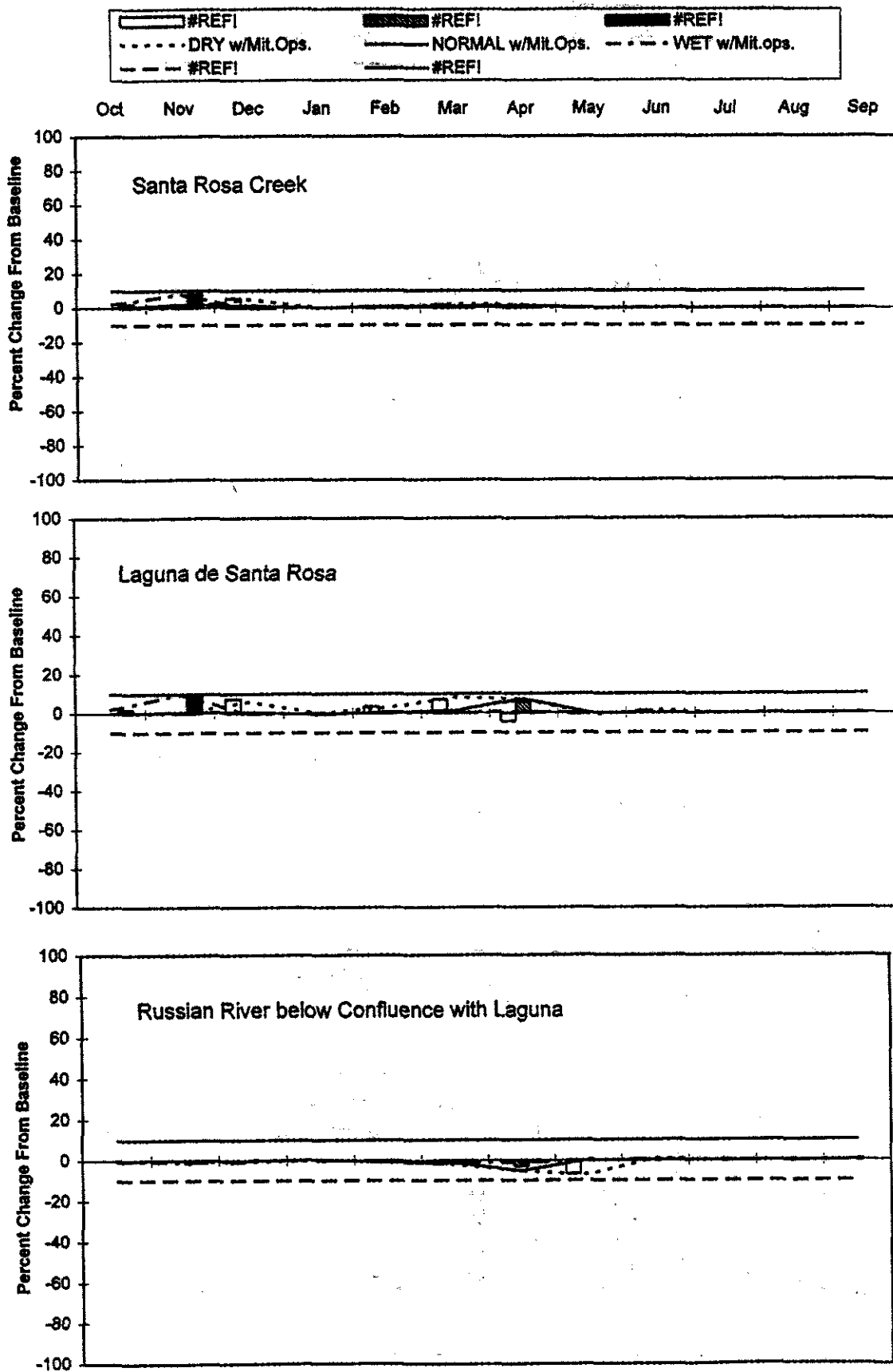


Figure 4-37. Discharge Impacts on Planktonic Algae - 10% Discharge to the Laguna de Santa Rosa

Existing Conditions Baseline - Project and Mitigation Operations

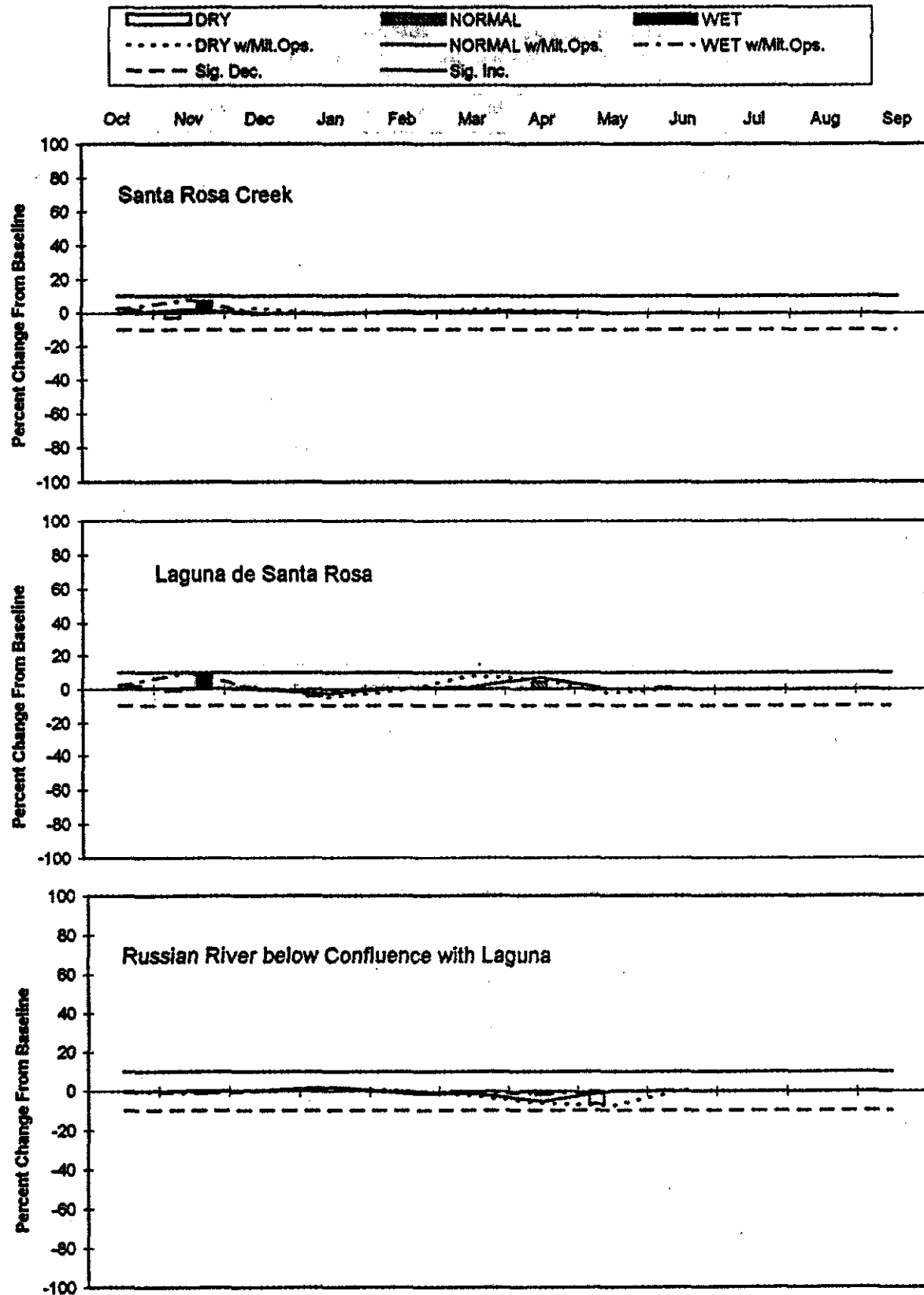
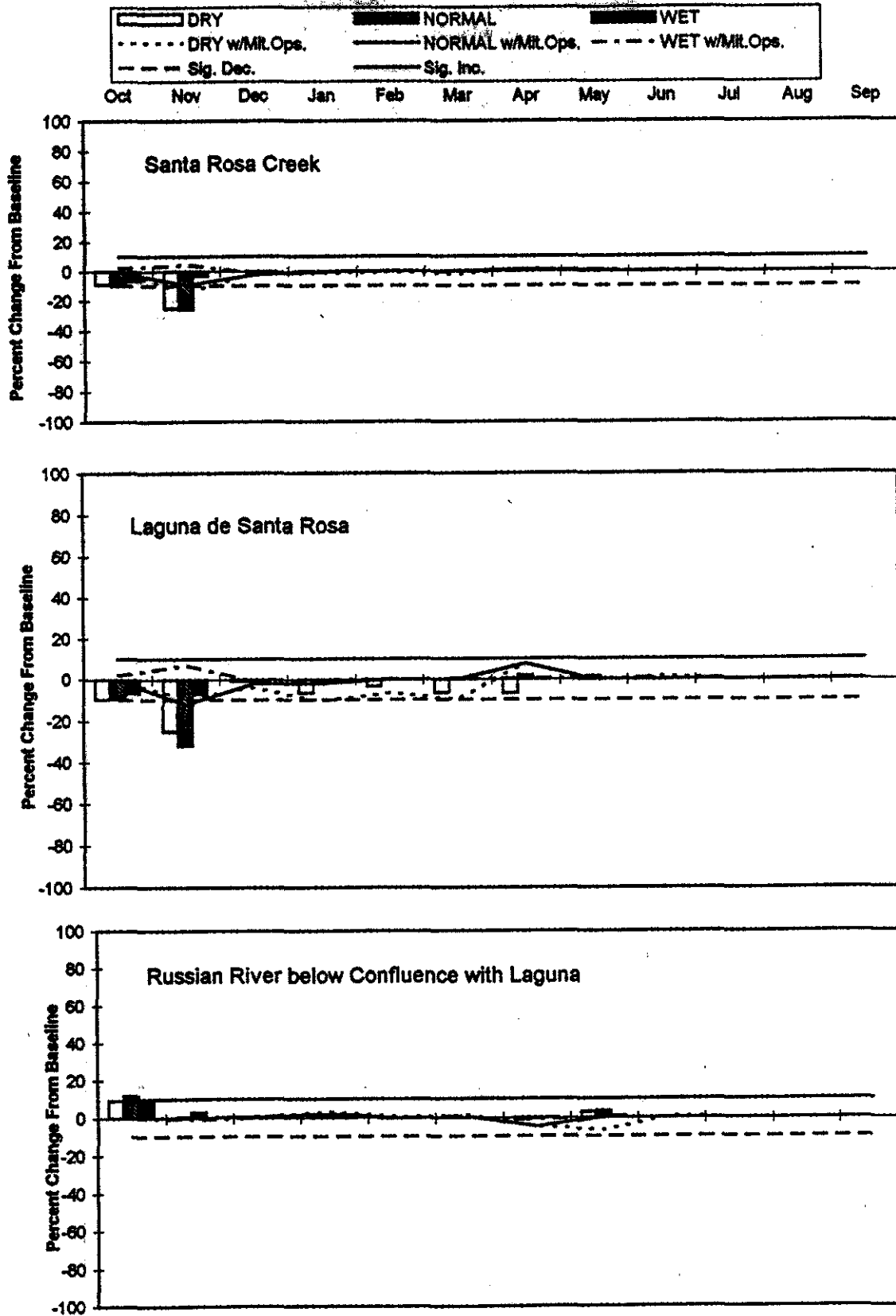
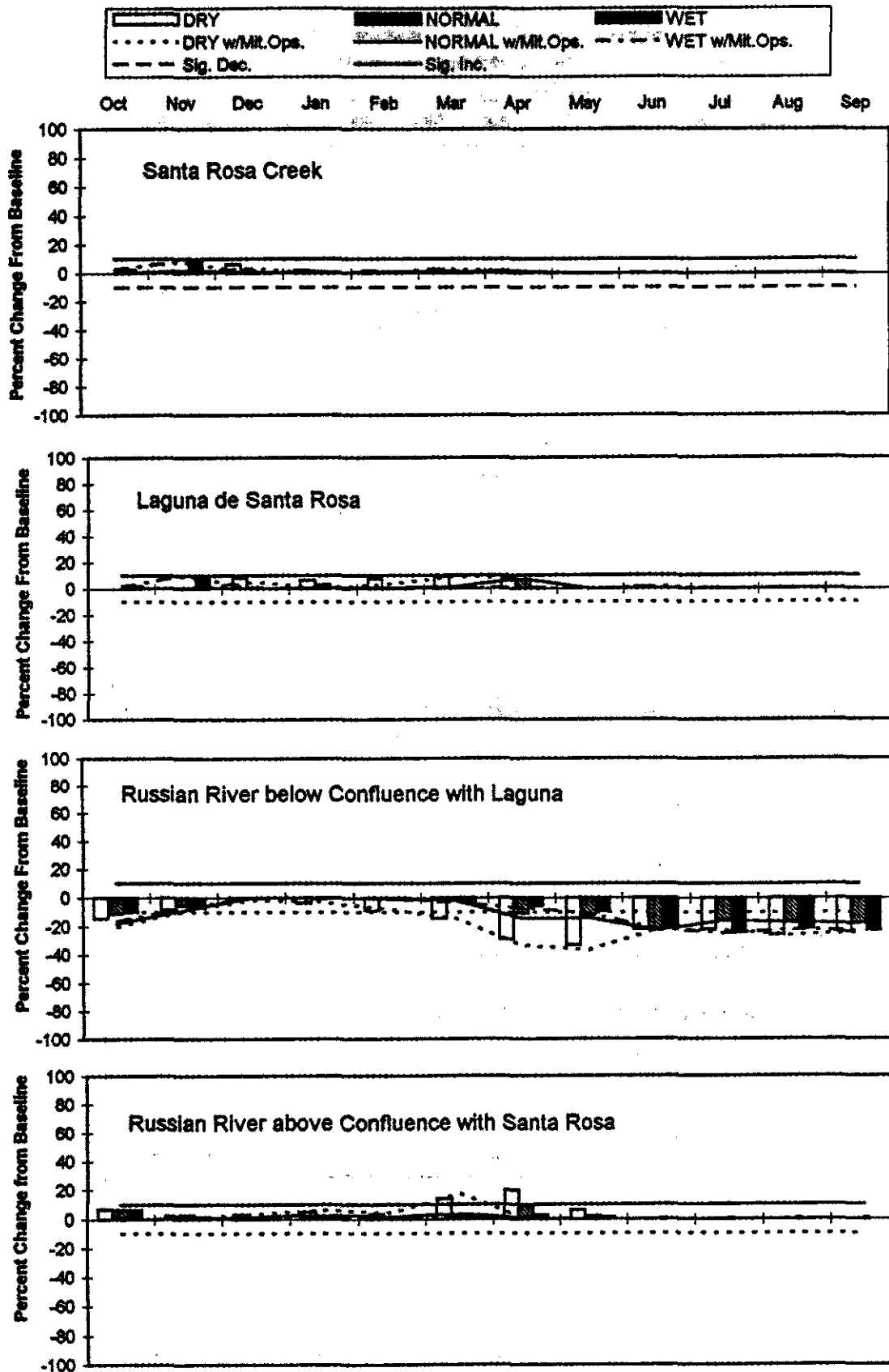


Figure 4-37. Discharge Impacts on Planktonic Algae - 20% Discharge to the Laguna de Santa Rosa

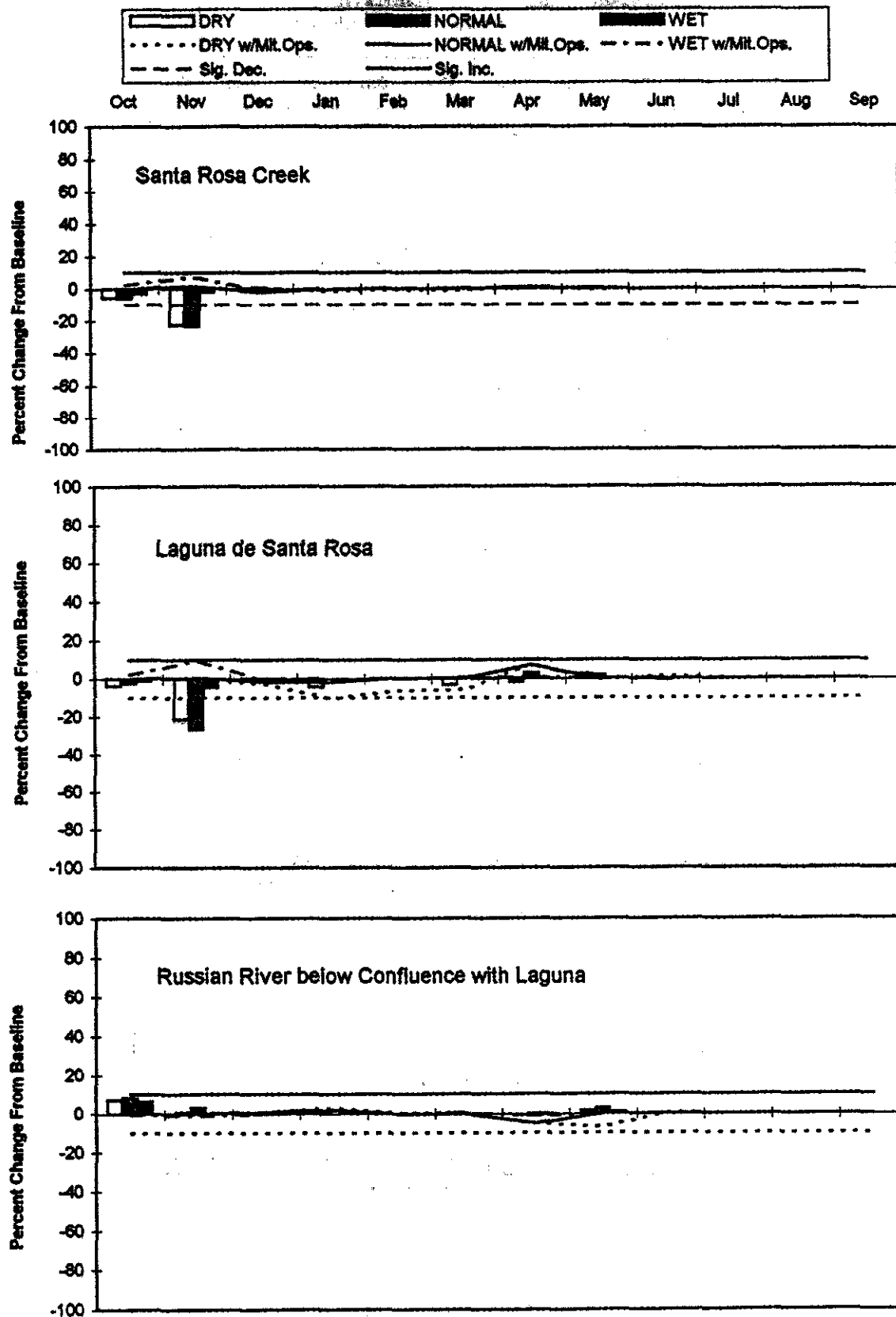
Existing Conditions Baseline - Project and Mitigation Operations



**Figure 4-37. Discharge Impacts on Planktonic Algae - 20% Discharge to Russian River
Existing Conditions Baseline - Project and Mitigation Operations**



**Figure 4-37. Discharge Impacts on Planktonic Algae - No Project Alternative
Existing Conditions Baseline - Project and Mitigation Operations**



**Figure 4-37. Discharge Impacts on Planktonic Algae - Geysers Alternative
Existing Conditions Baseline - Project and Mitigation Operations**

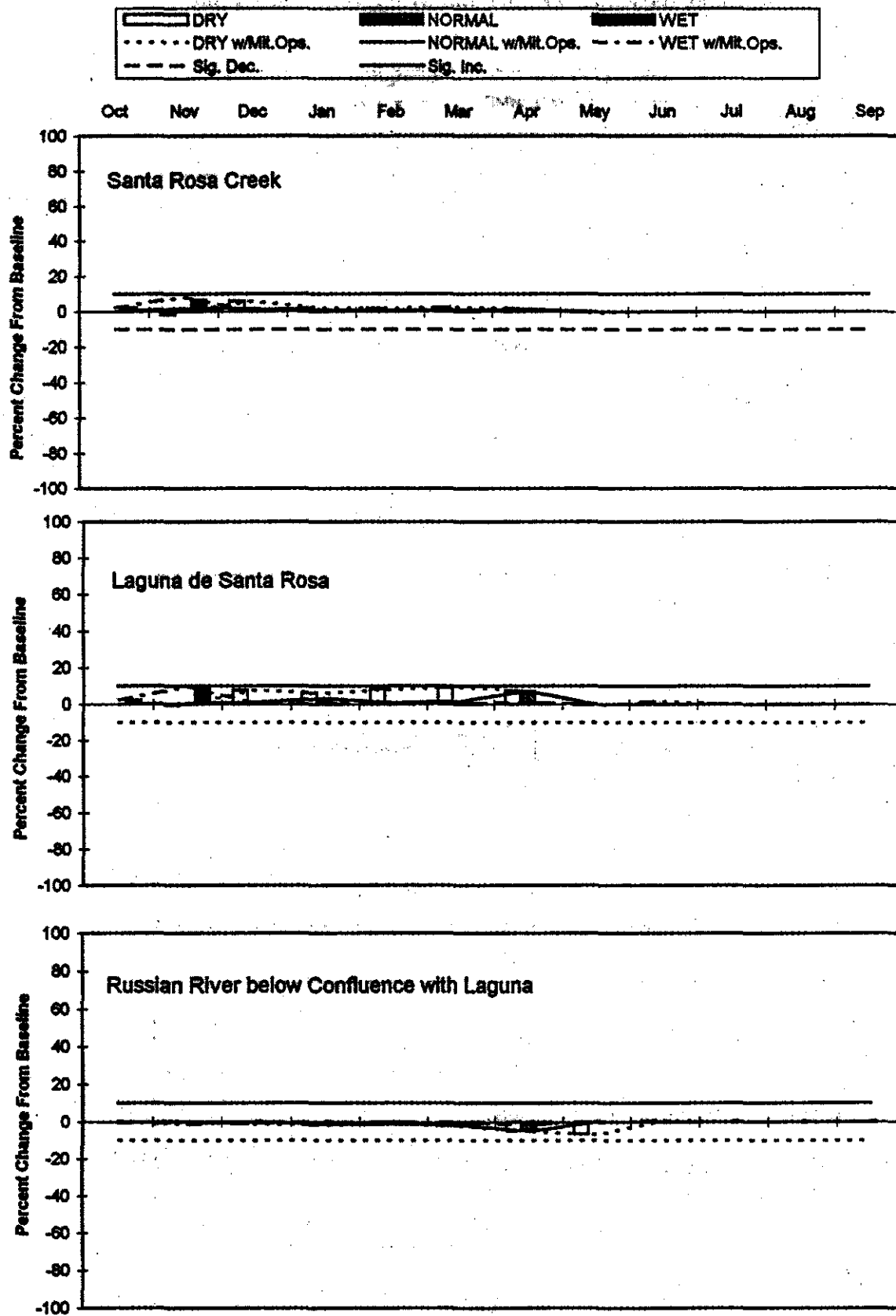


Figure 4-38. Discharge Impacts on Dissolved Oxygen - 20% Discharge to the Laguna de Santa Rosa

Existing Conditions Baseline - Project and Mitigation Operations

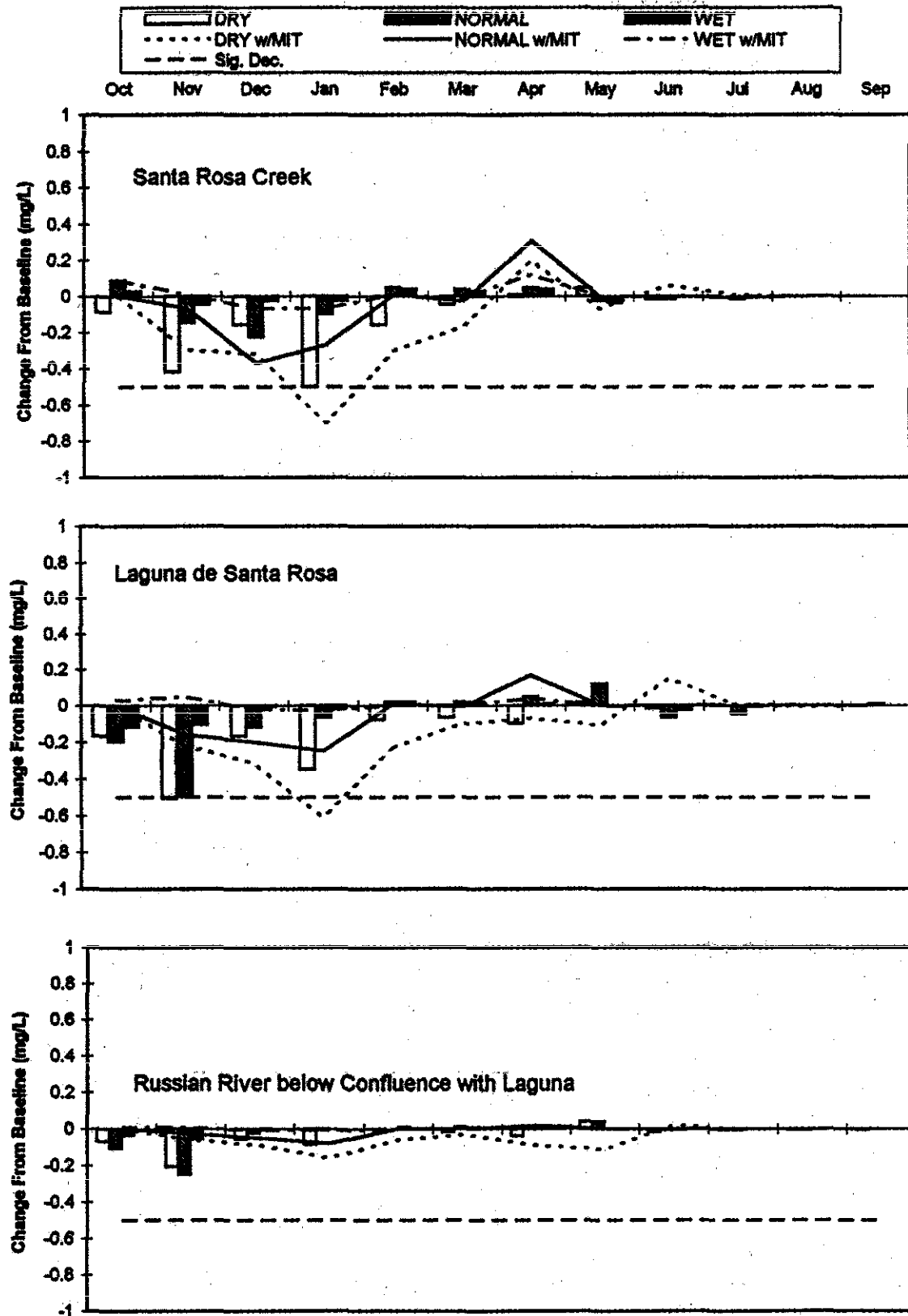


Figure 4-38. Discharge Impacts on Dissolved Oxygen - No Project Alternative
Existing Conditions Baseline - Project and Mitigation Operations

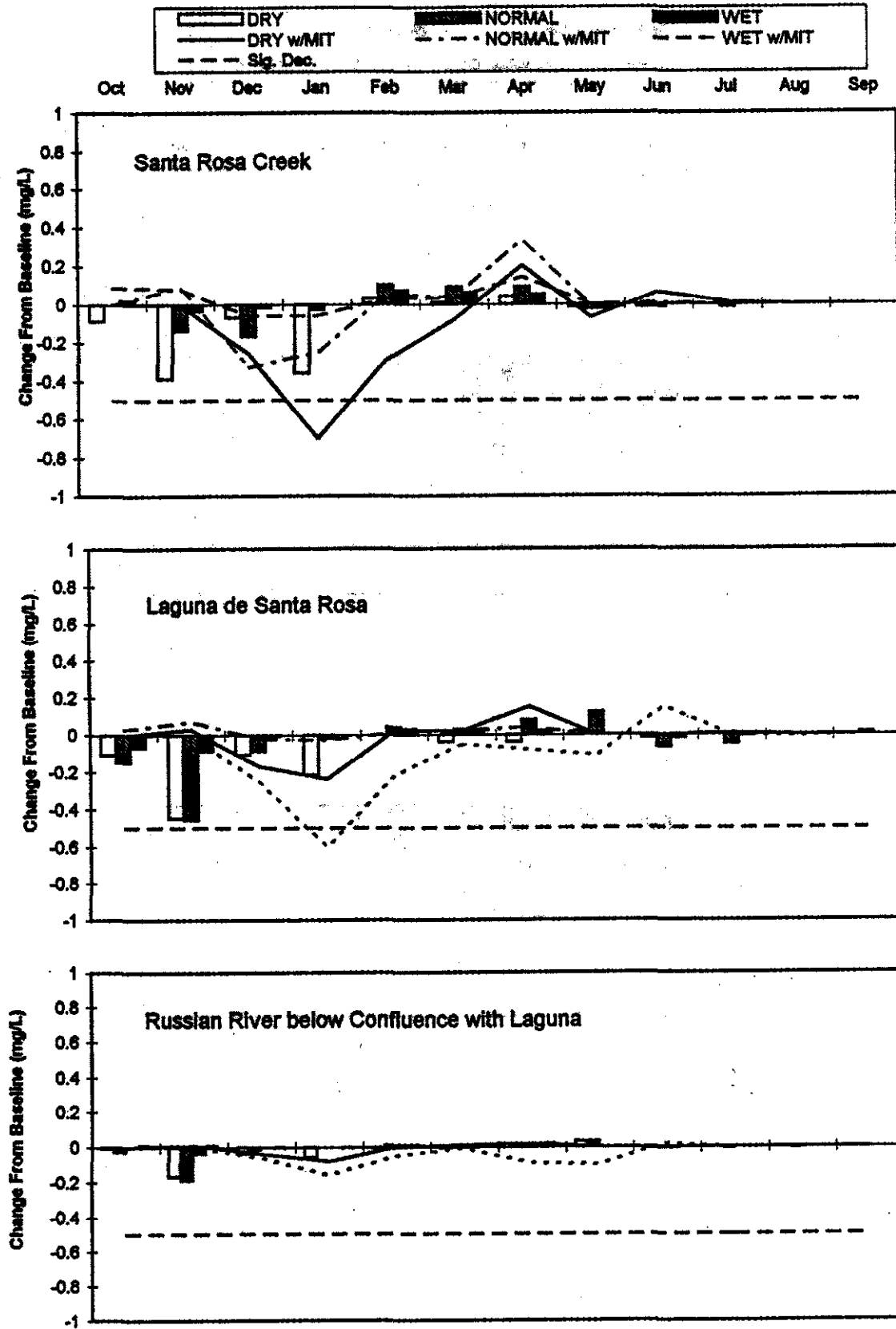
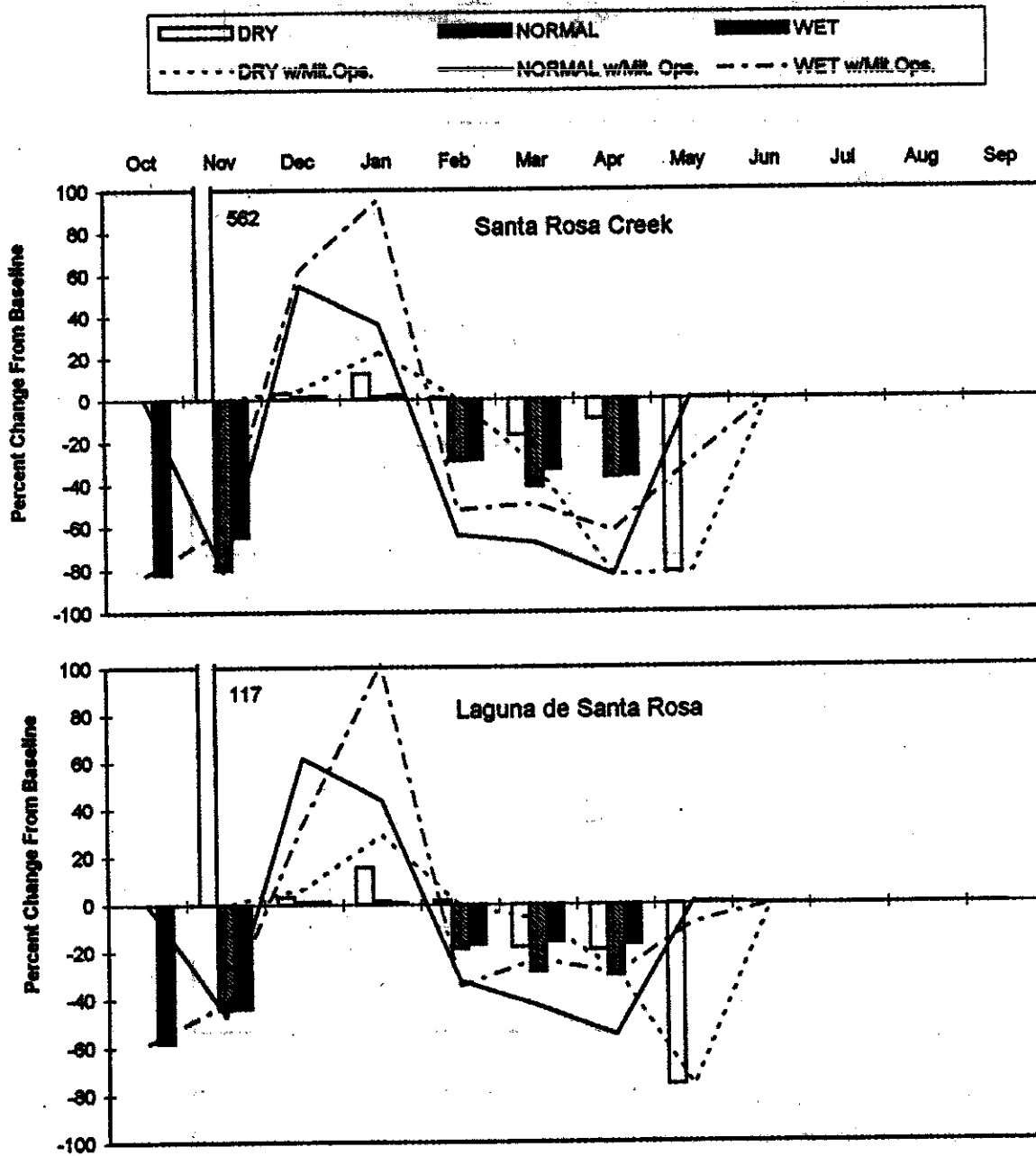
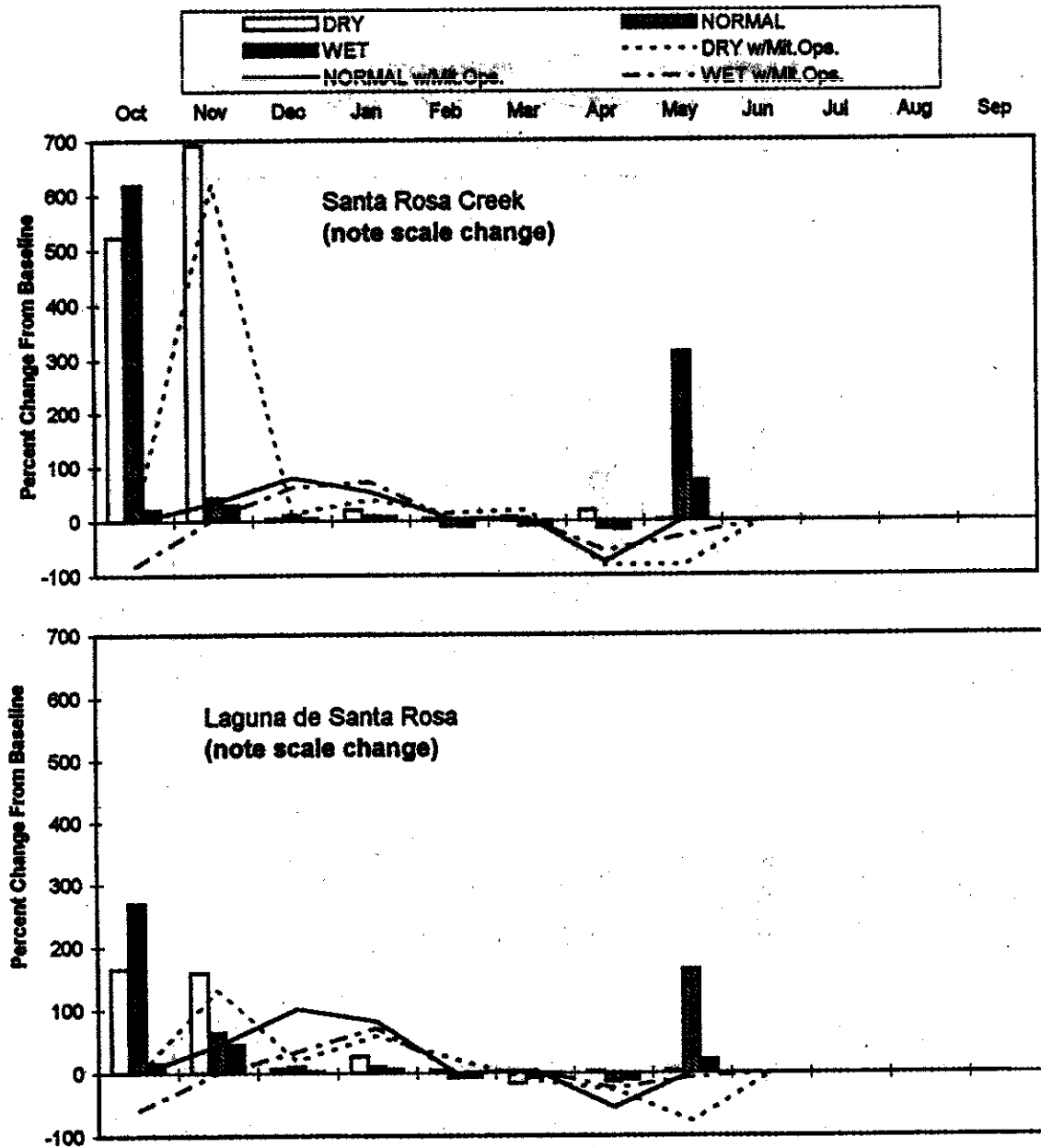


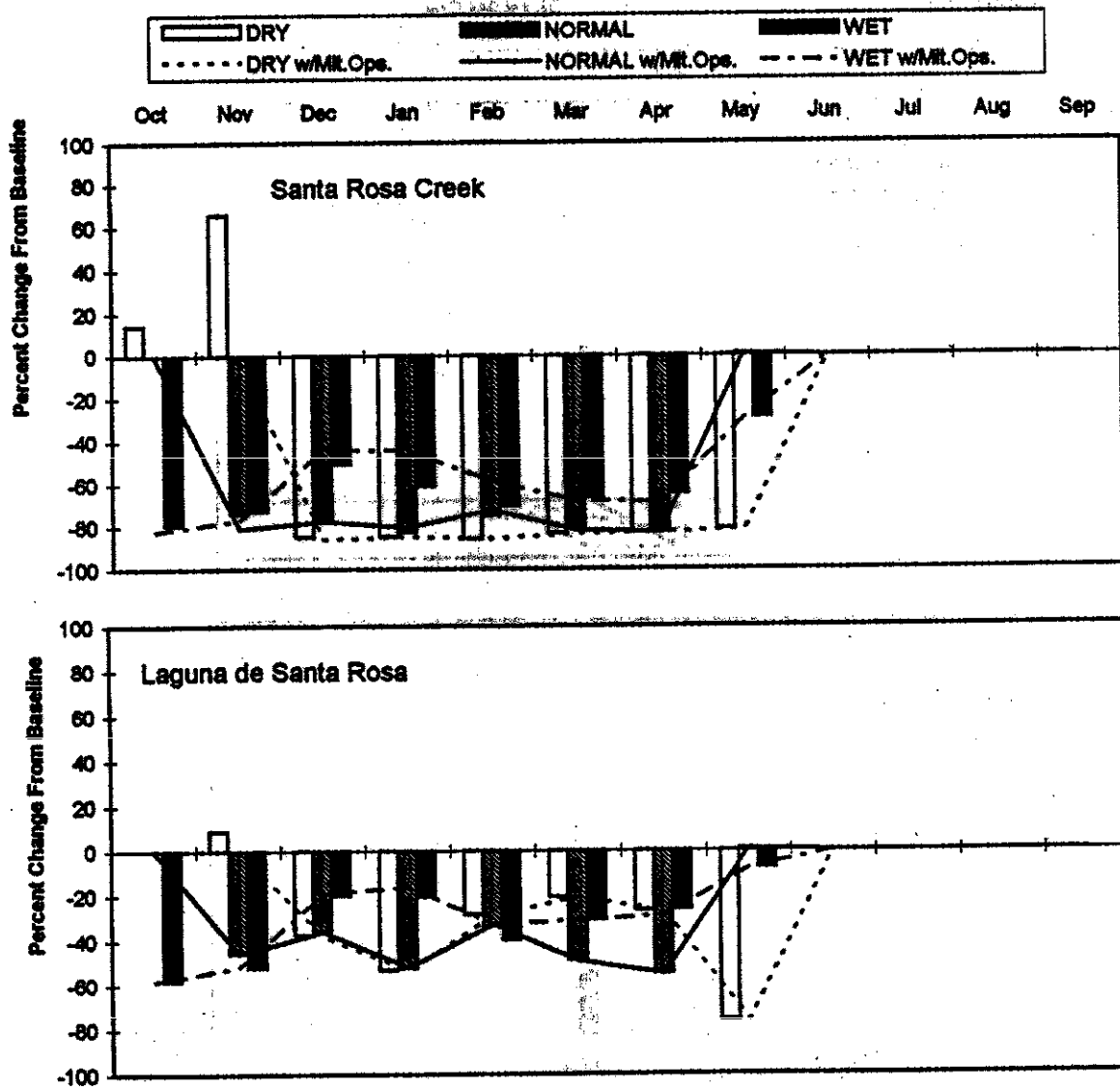
Figure 4-39. Discharge Impacts on Ammonia - 10% Discharge to Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations



**Figure 4-39. Discharge Impacts on Ammonia - 20% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations**



**Figure 4-39. Discharge Impacts on Ammonia - Geysers Alternative
Existing Conditions Baseline - Project and Mitigation Operations**



**Figure 4-39. Discharge Impacts on Ammonia - No Project Alternative
Existing Conditions Baseline - Project and Mitigation Operations**

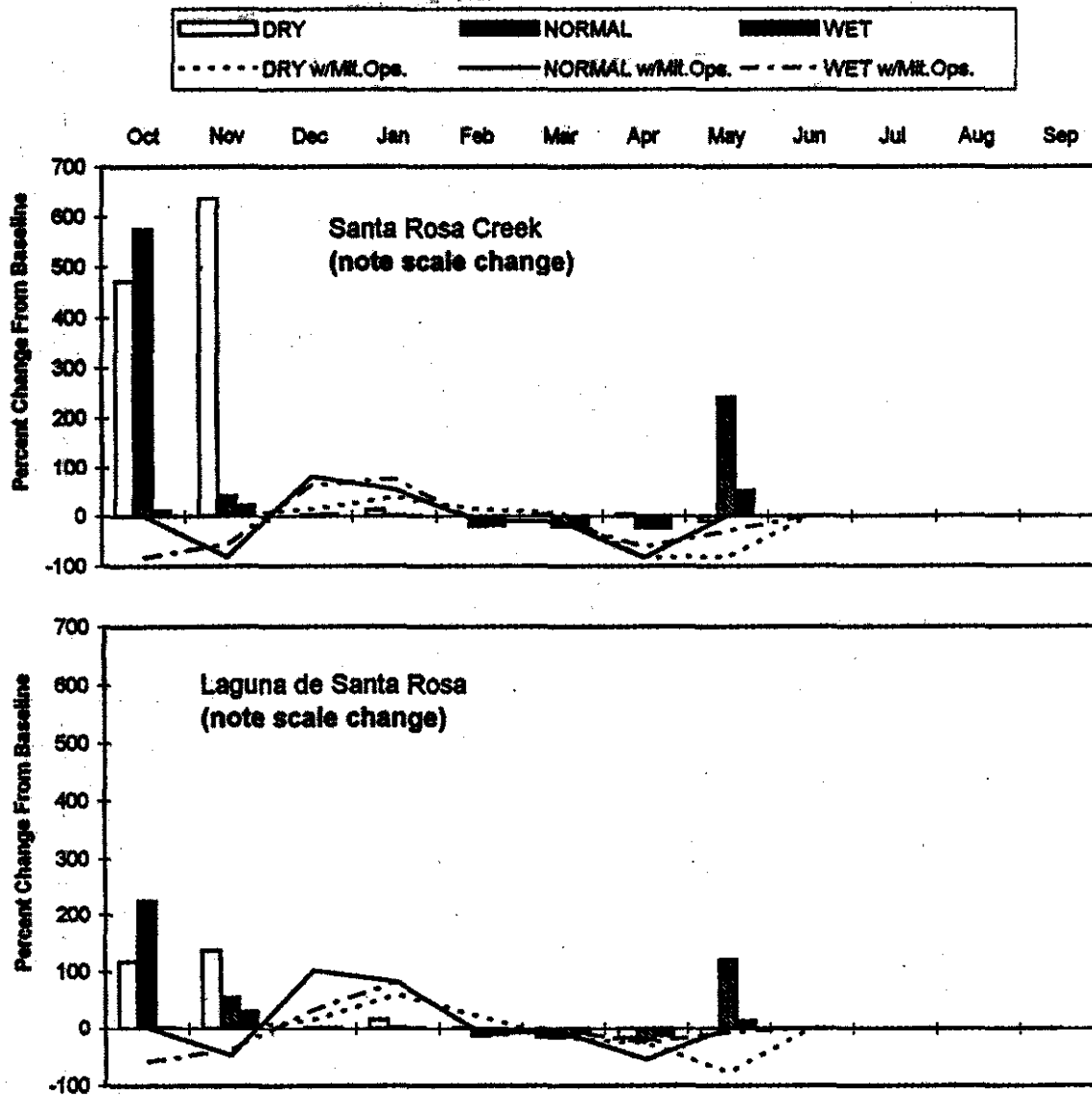


Figure 4-40. Distribution of Daily Average Reclaimed Water Concentration During the Discharge Season in Santa Rosa Creek in a Very Dry Year (1977) With Contingency Discharge Under Project and Mitigation Operations

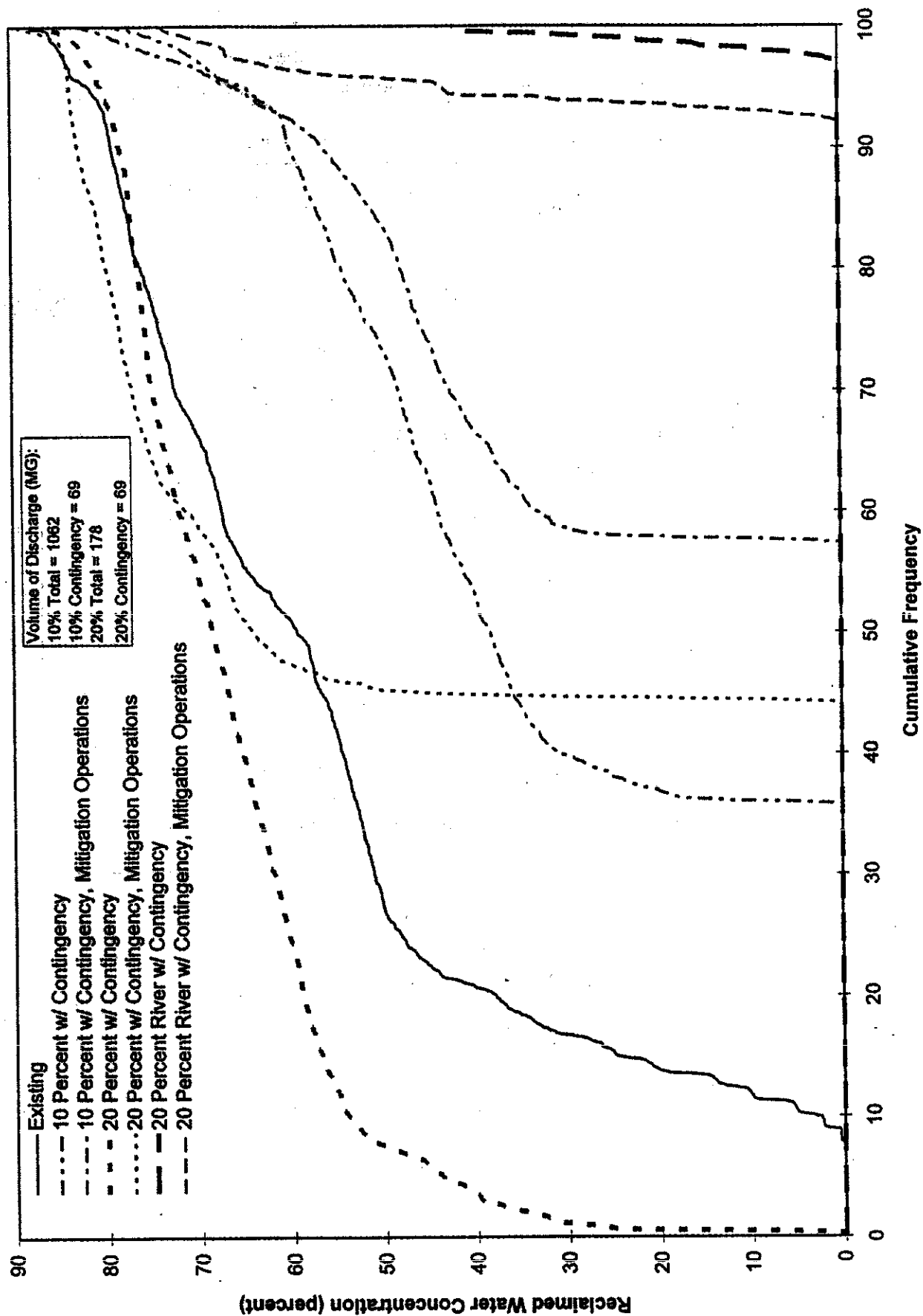


Figure 4-41. Distribution of Daily Average Reclaimed Water Concentration During the Discharge Season in the Laguna at River Road in a Very Dry Year (1977) With Contingency Discharge Under Project and Mitigation Operations

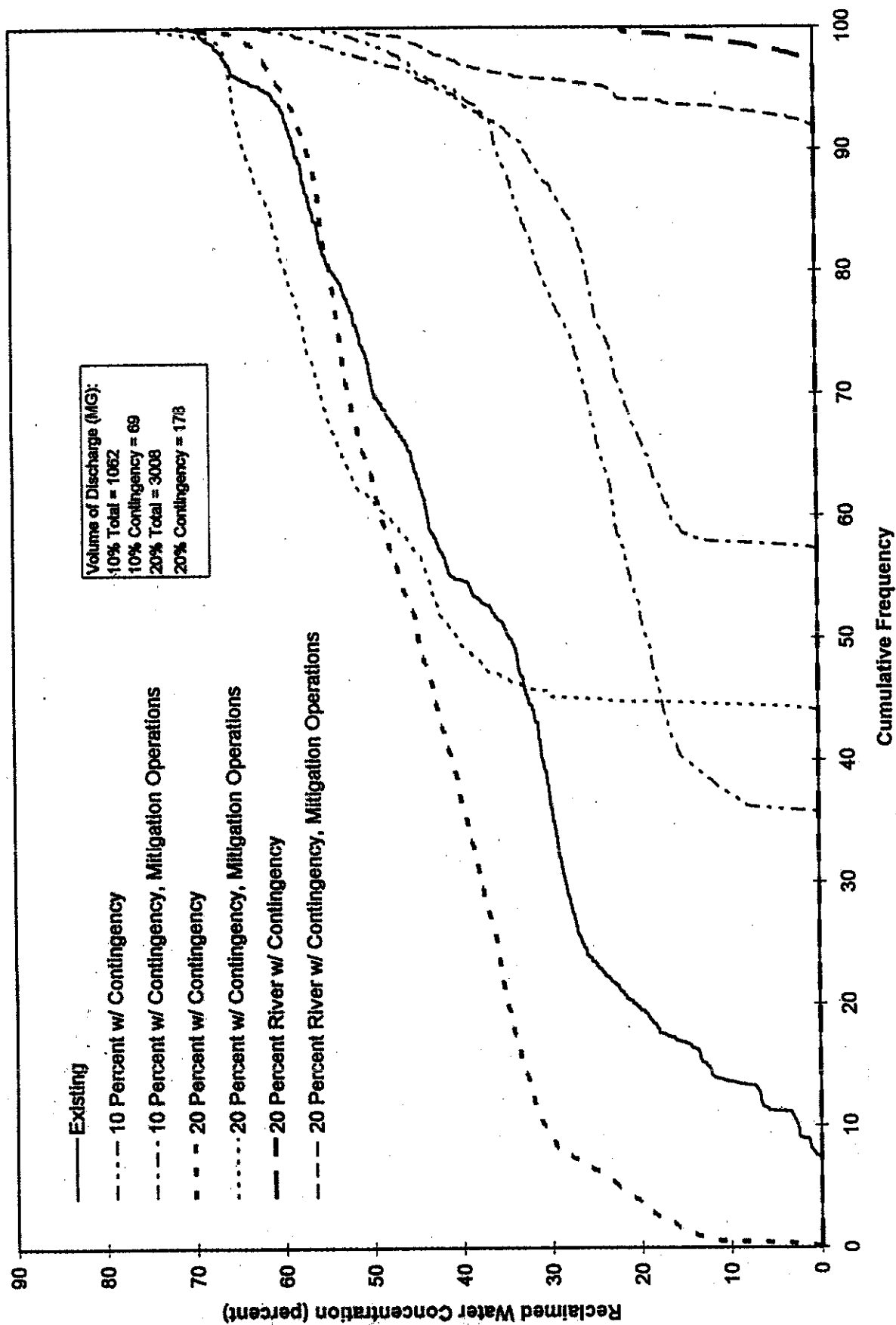


Figure 4-42. Distribution of Daily Average Reclaimed Water Concentration During the Discharge Season In the Russian River Below the Laguna in a Very Dry Year (1977) With Contingency Discharge Under Project and Mitigation Operations

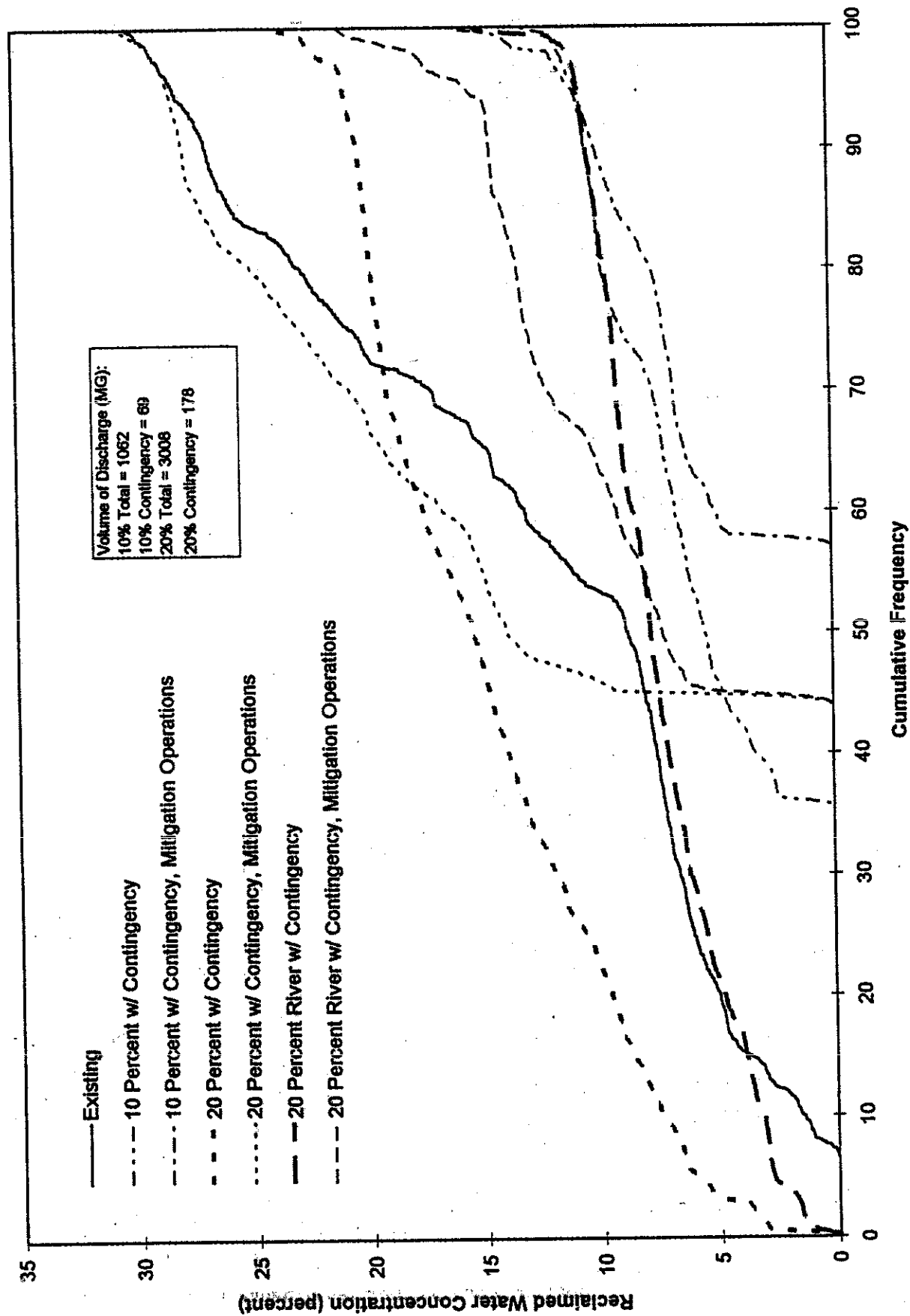


Figure 4-43. Distribution of Daily Average Reclaimed Water Concentration During the Discharge Season In the Russian River Above the Laguna in a Very Dry Year (1977) With Contingency Discharge Under Project and Mitigation Operations

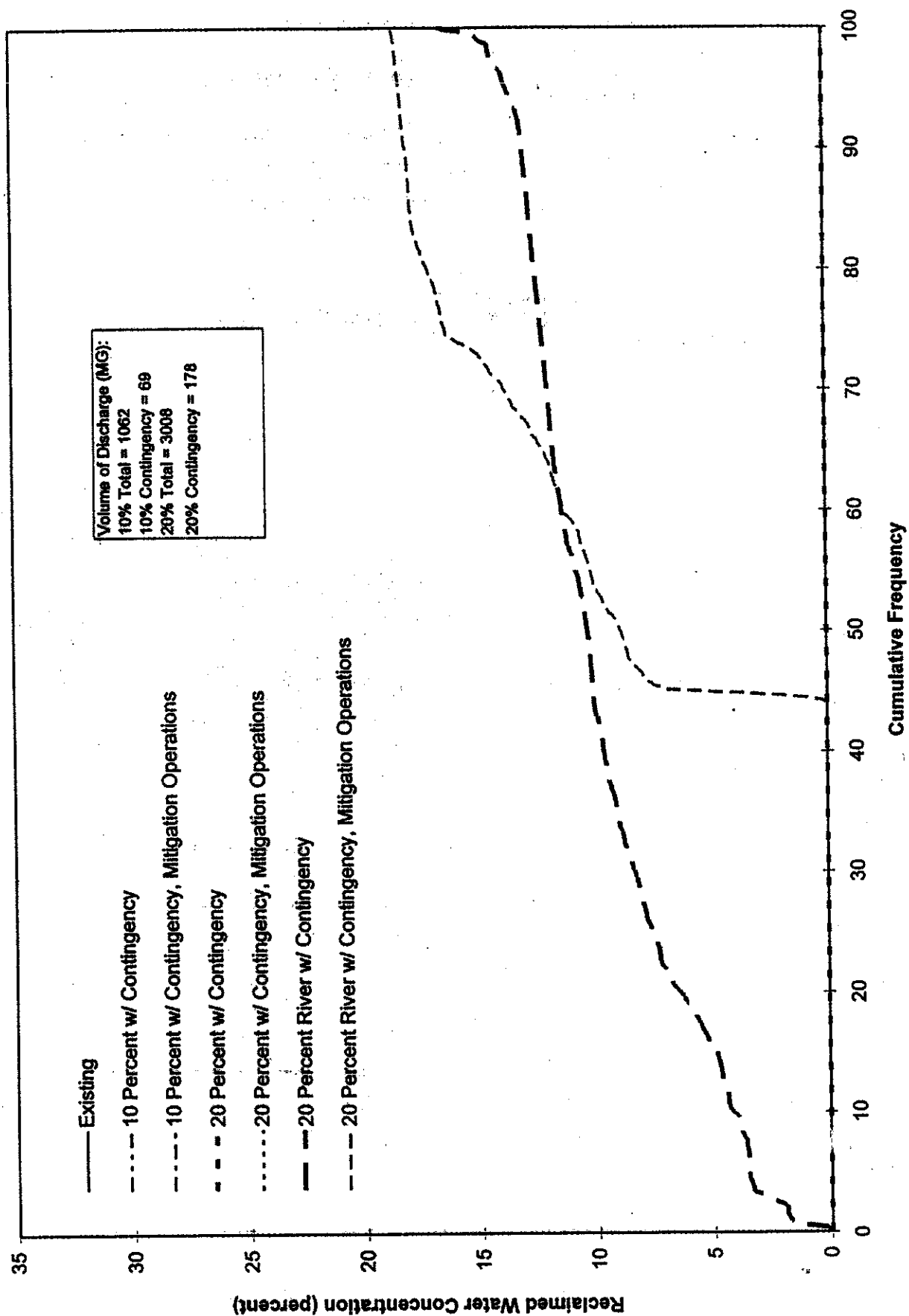


Figure 4-44. Contingency Discharge Impacts on Benthic Algae - 10% Discharge Component

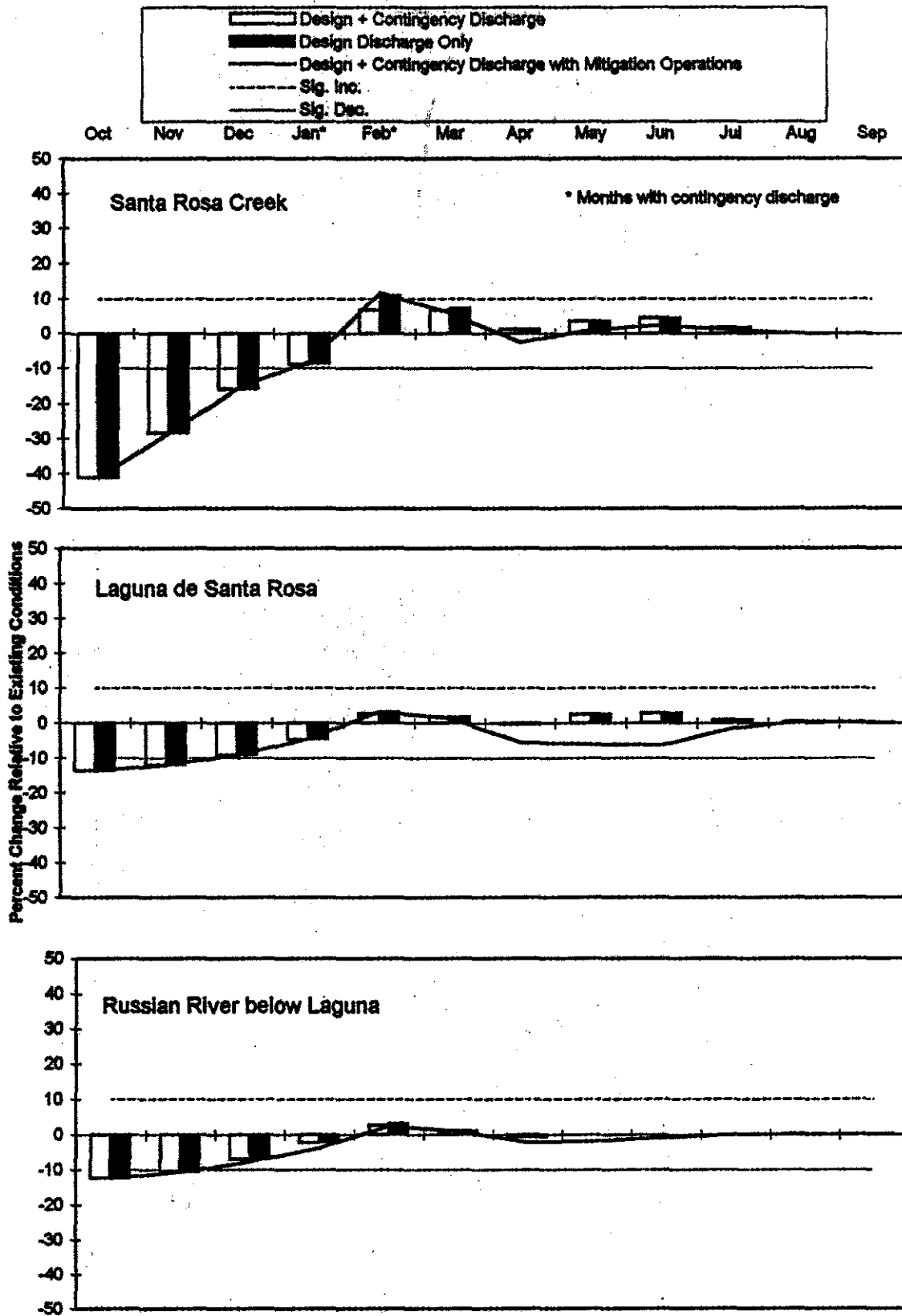


Figure 4-45. Contingency Discharge Impacts on Benthic Algae - 20% Discharge Component

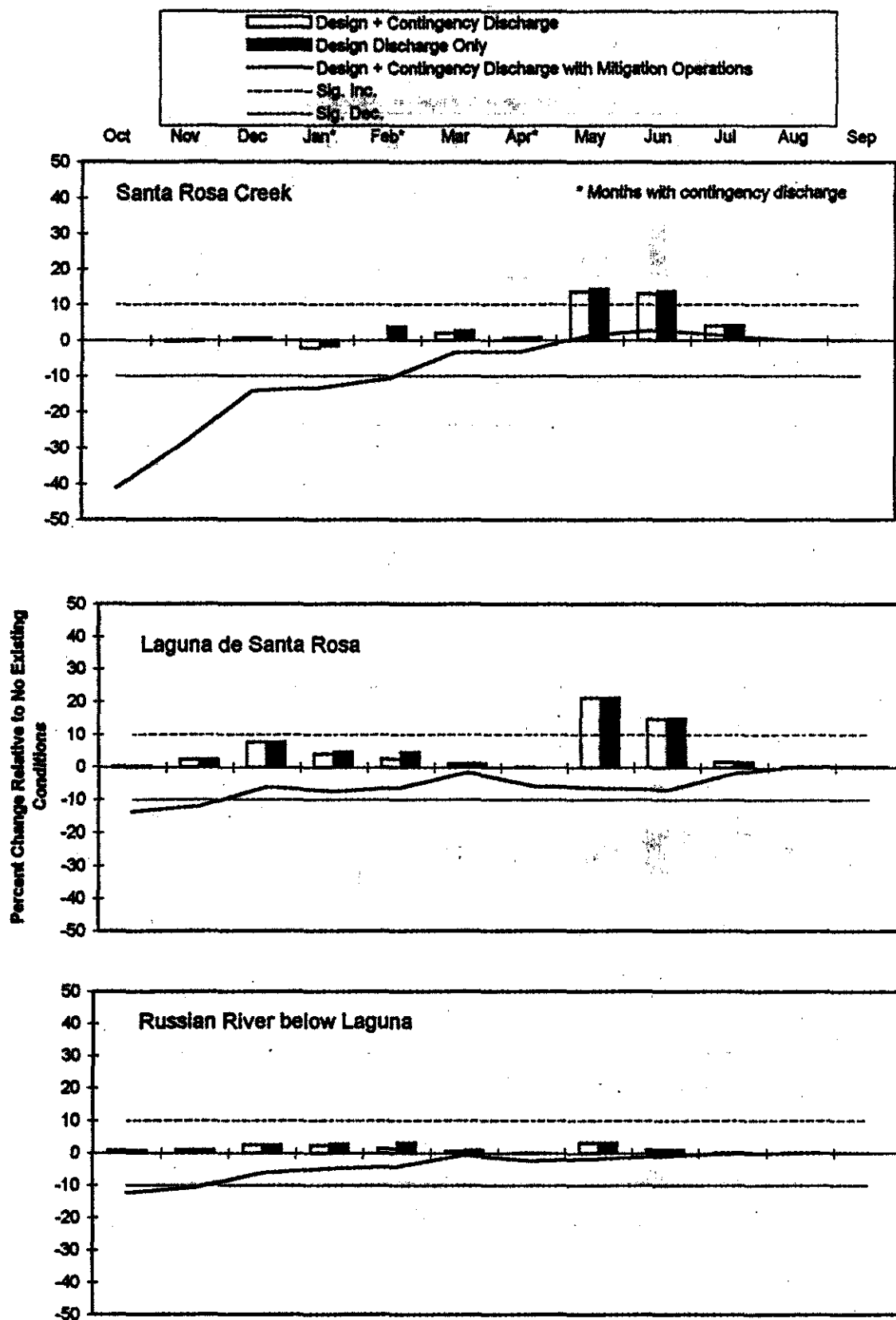


Figure 4-46. Contingency Discharge Impacts on Benthic Algae - 20% Russian River Discharge Component

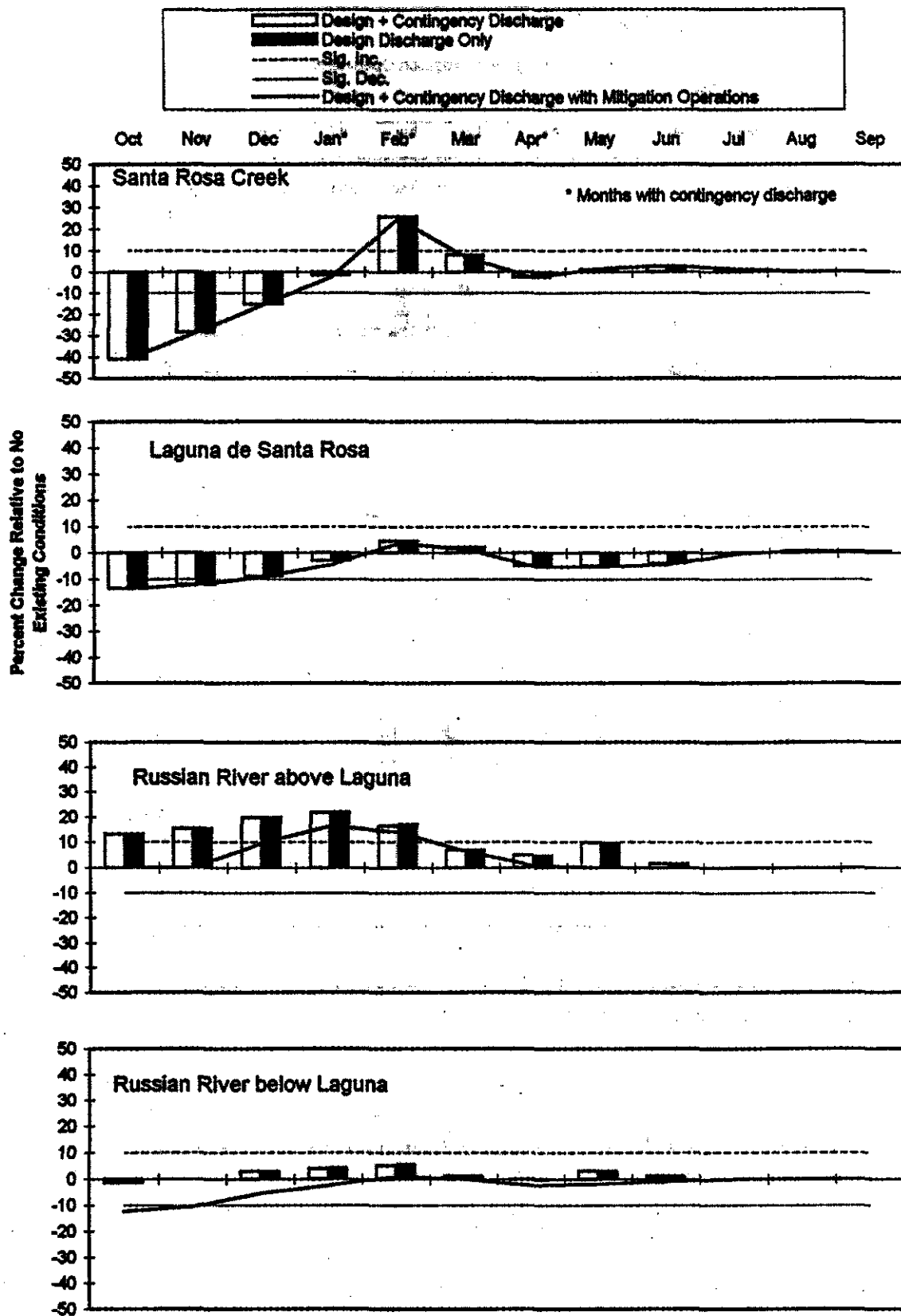


Figure 4-47. Contingency Discharge Impacts on Planktonic Algae - 10% Discharge Component

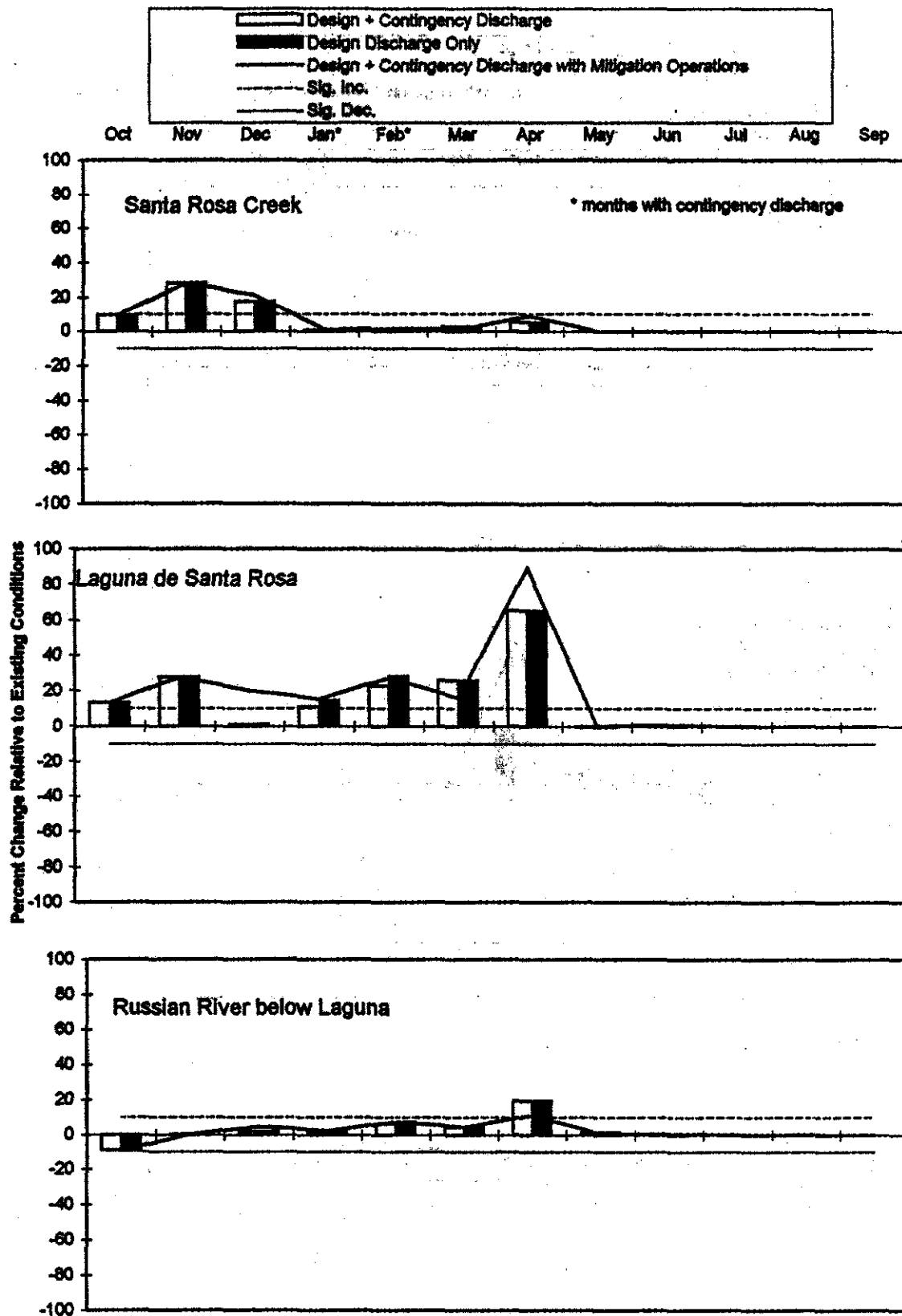


Figure 4-48. Contingency Discharge Impacts on Planktonic Algae - 20% Discharge Component

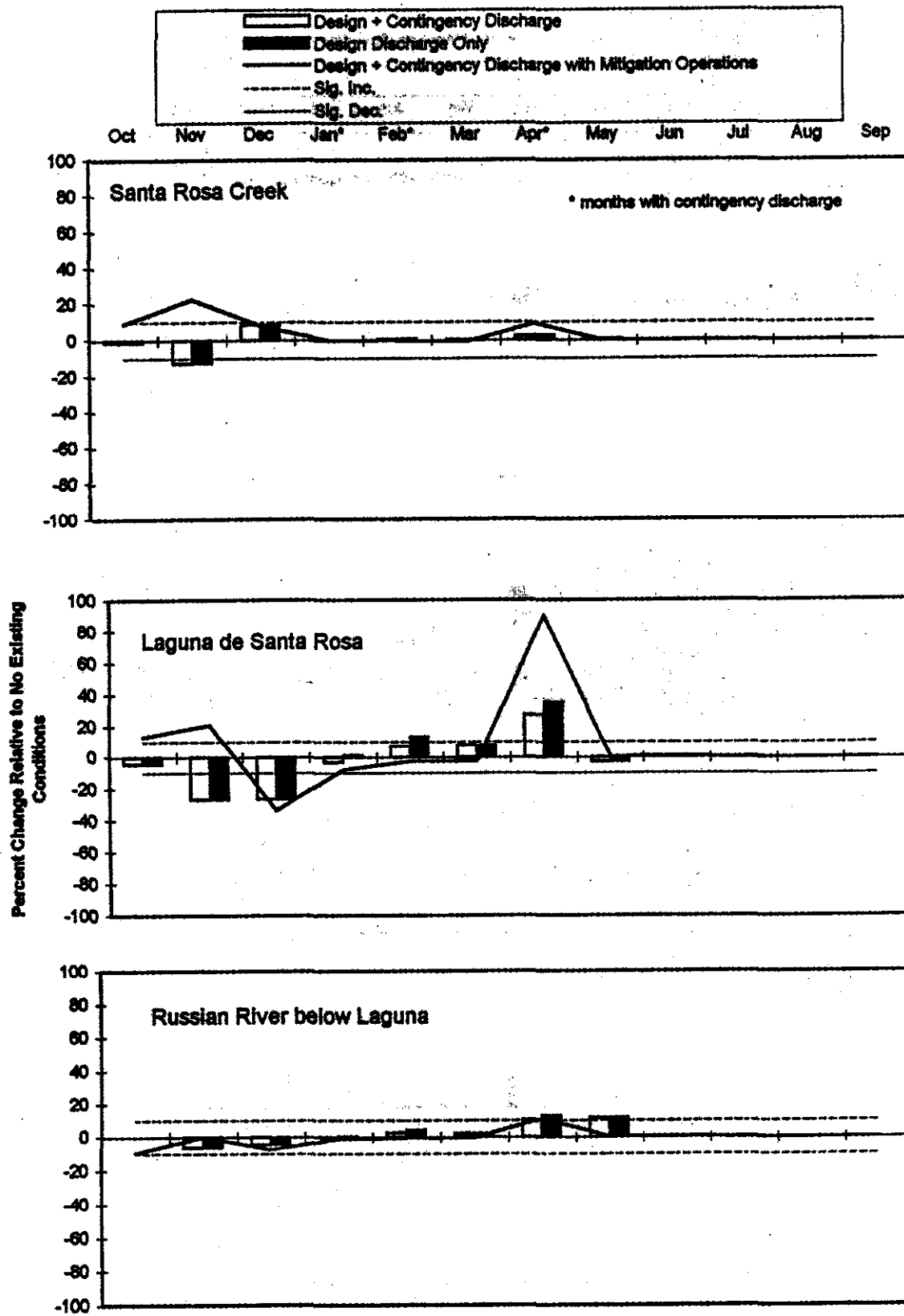


Figure 4-49. Contingency Discharge Impacts on Planktonic Algae - 20% Russian River Discharge Component

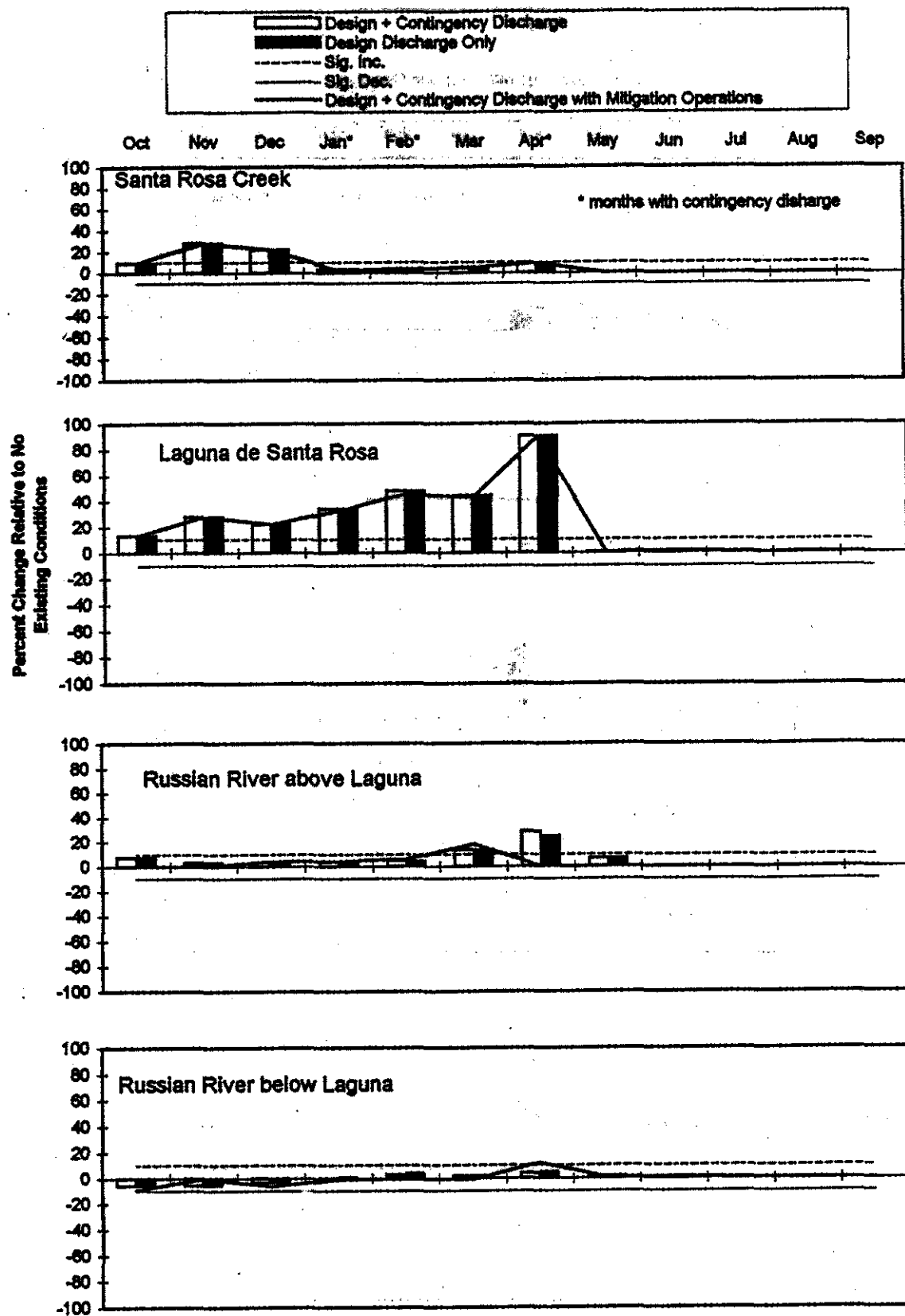


Figure 4-50. Contingency Discharge Impacts on Dissolved Oxygen - 10% Discharge Component

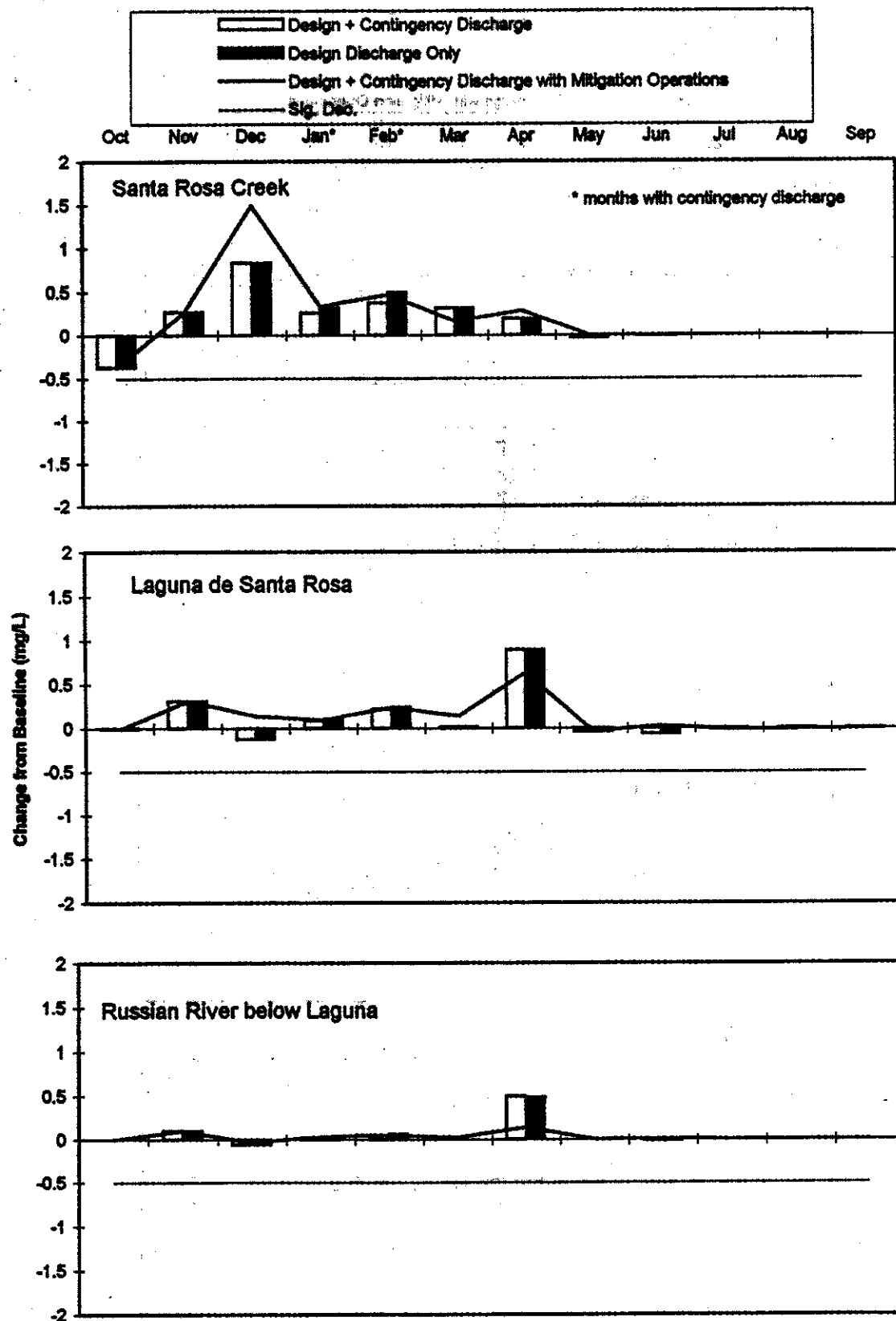


Figure 4-51. Contingency Discharge Impacts on Dissolved Oxygen - 20% Discharge Component

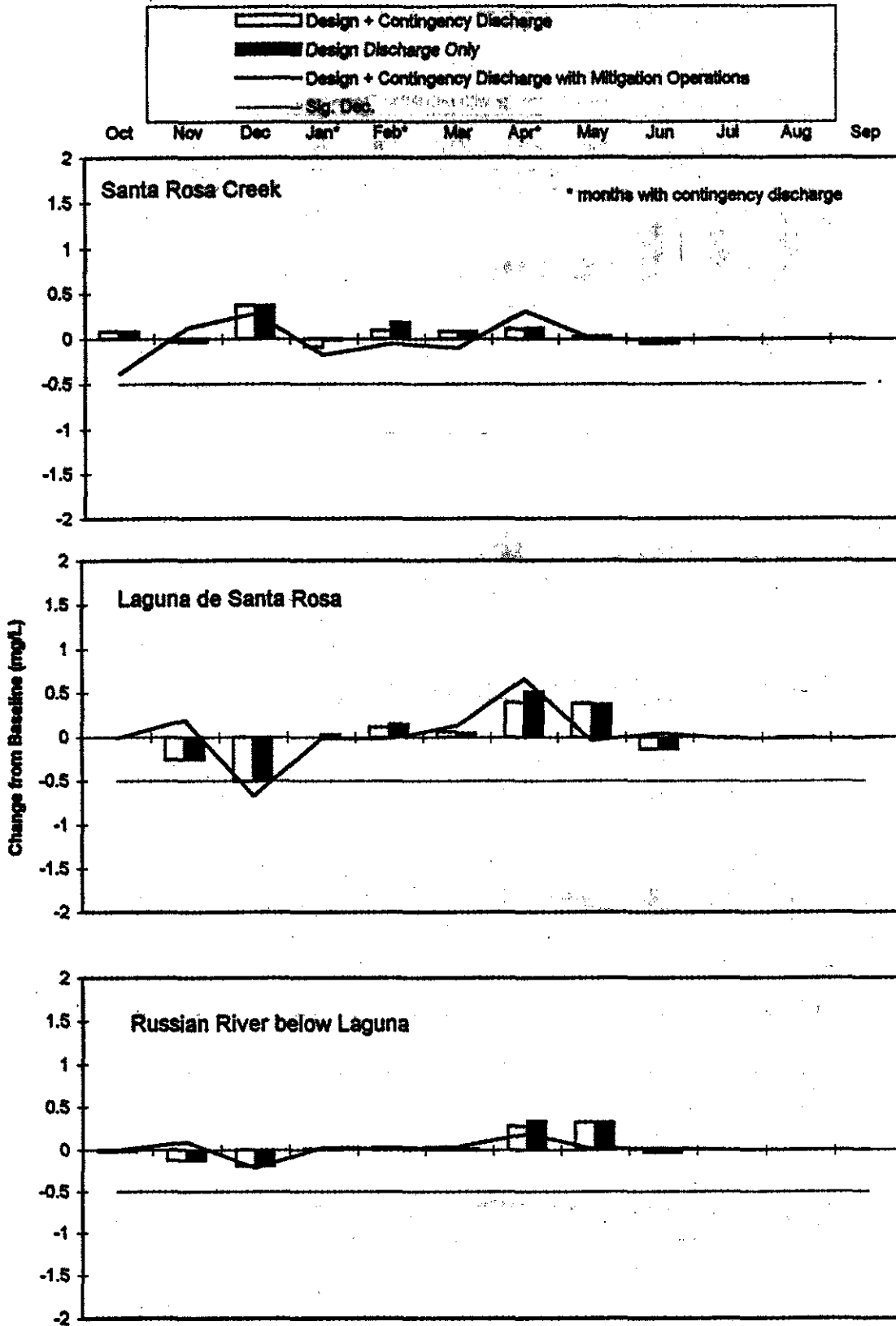


Figure 4-52. Contingency Discharge Impacts on Dissolved Oxygen - 20% Russian River Discharge Component

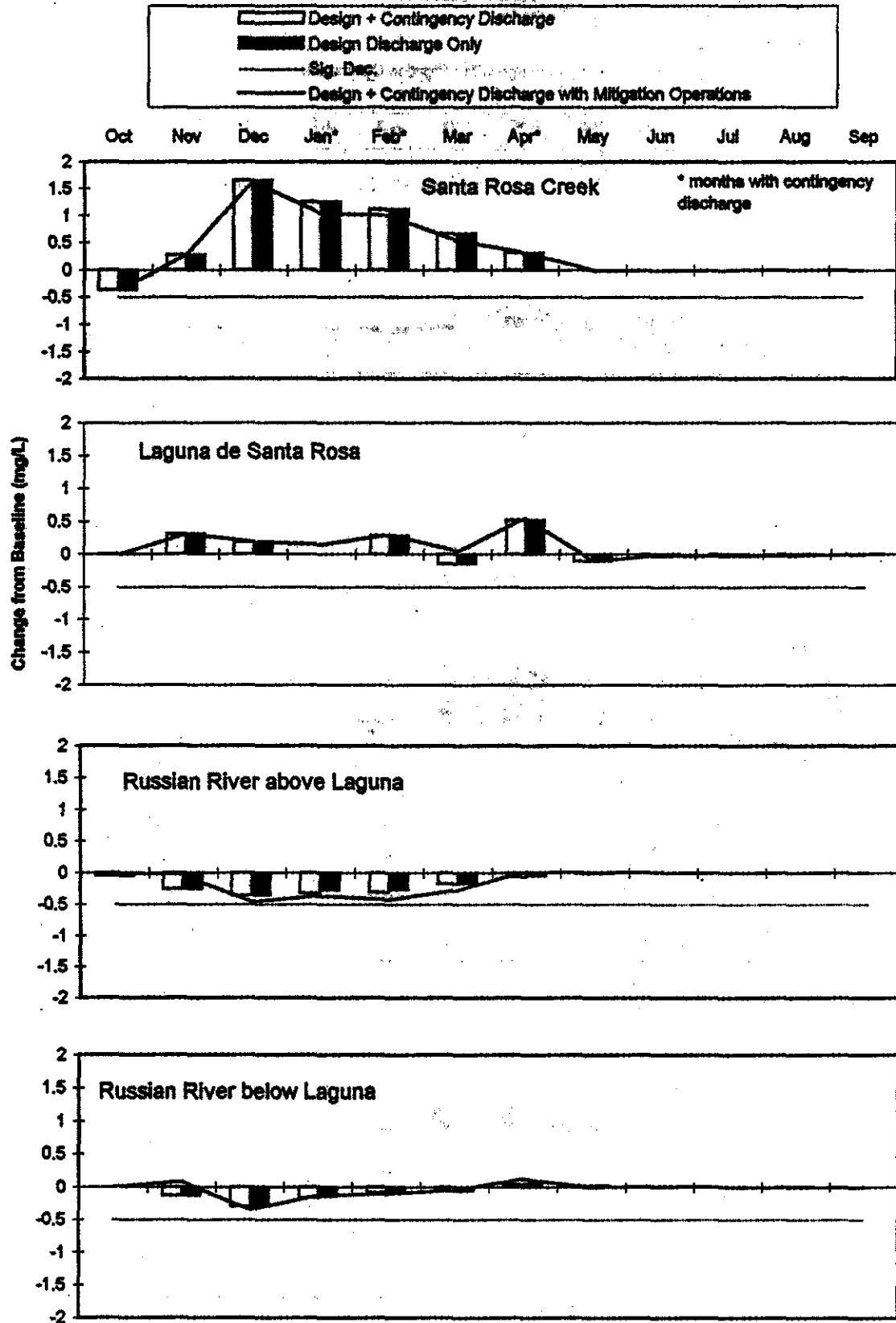


Figure 4-53. Contingency Discharge Impacts on Ammonia - 10% Discharge Component

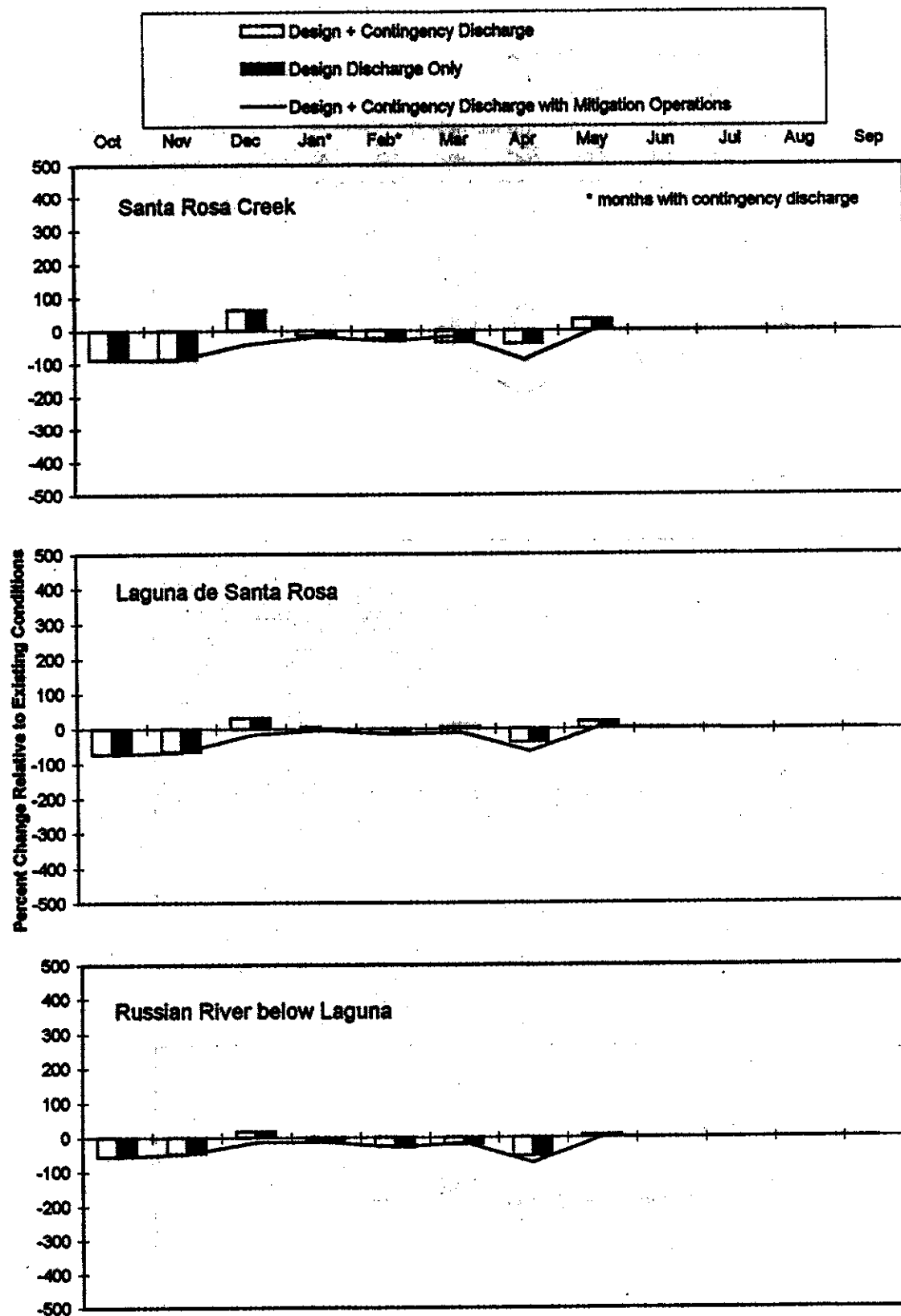


Figure 4-54. Contingency Discharge Impacts on Ammonia - 20% Discharge Component

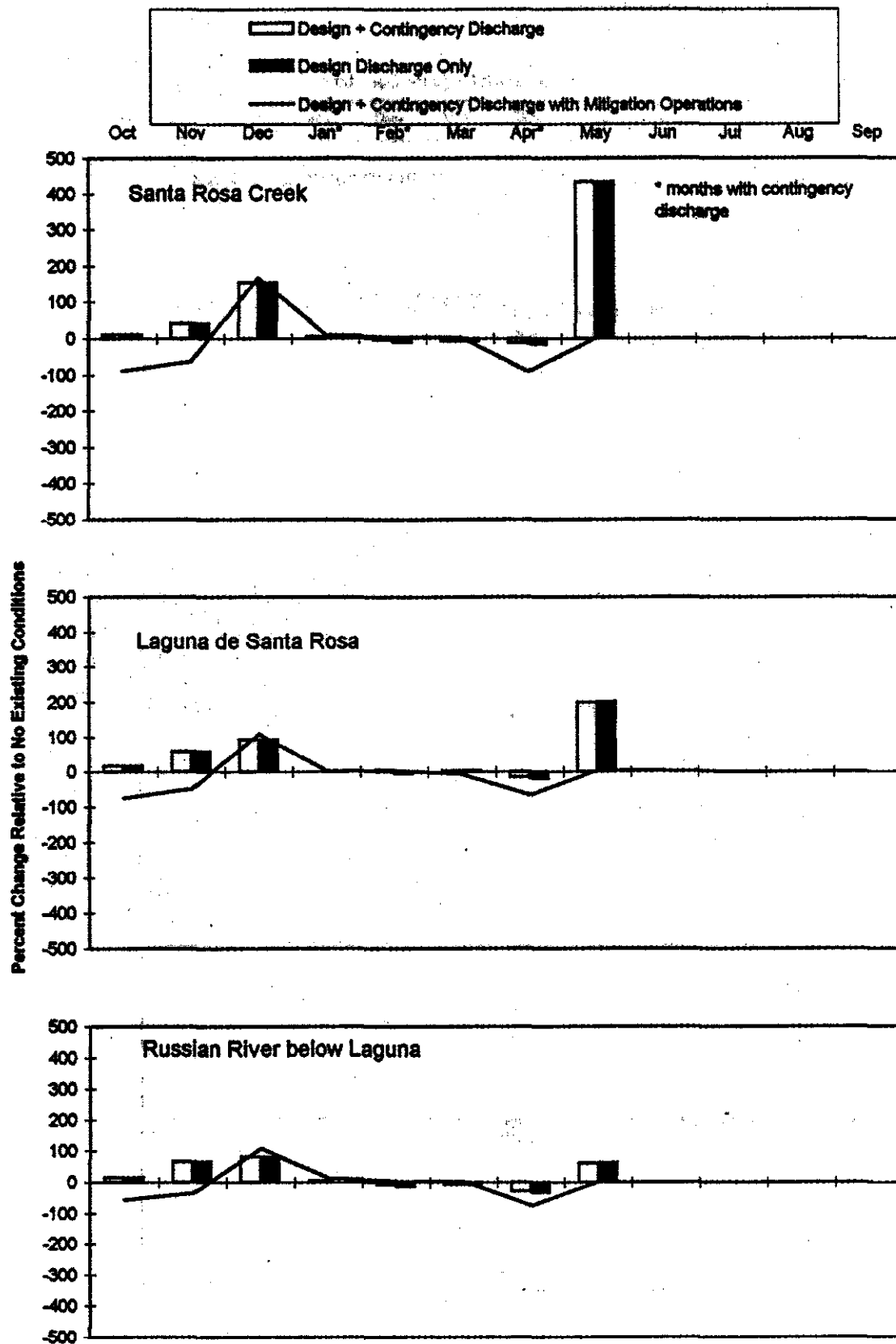


Figure 4-55. Contingency Discharge Impacts on Ammonia - 20% Russian River Discharge Component

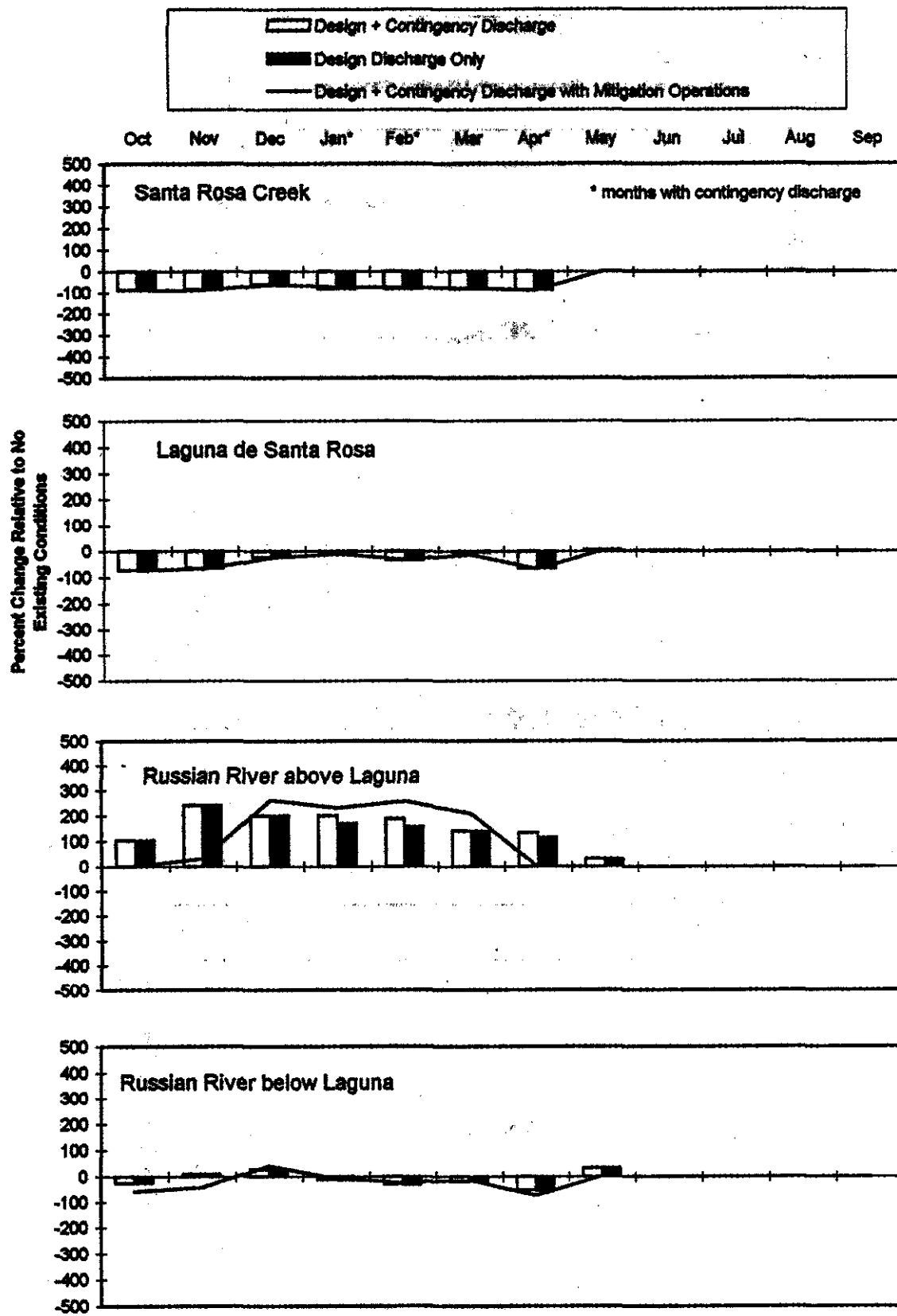


Figure 4-56. Contingency Discharge Impacts on Temperature - 10% Discharge Component

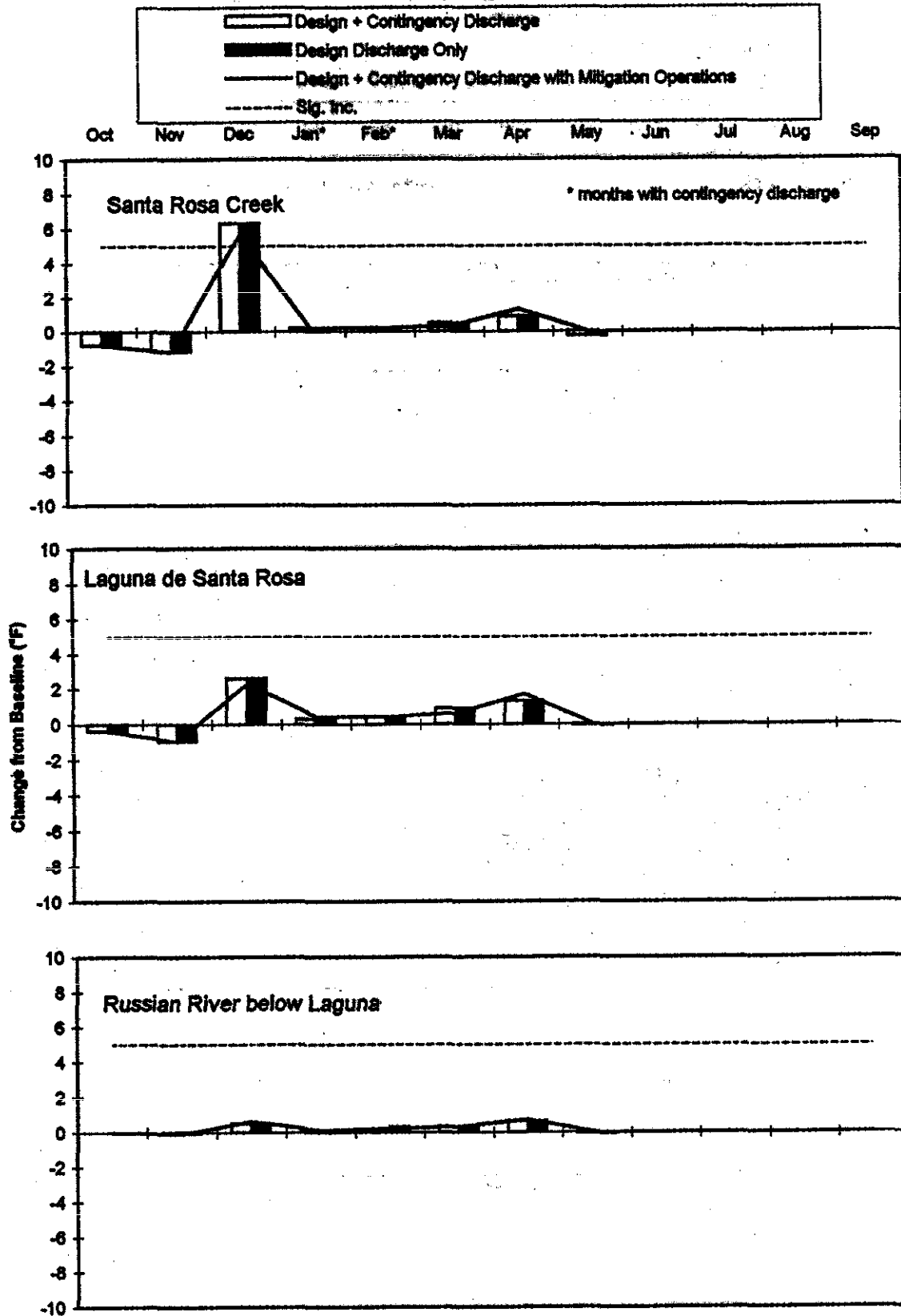


Figure 4-57. Contingency Discharge Impacts on Temperature - 20% Discharge Component

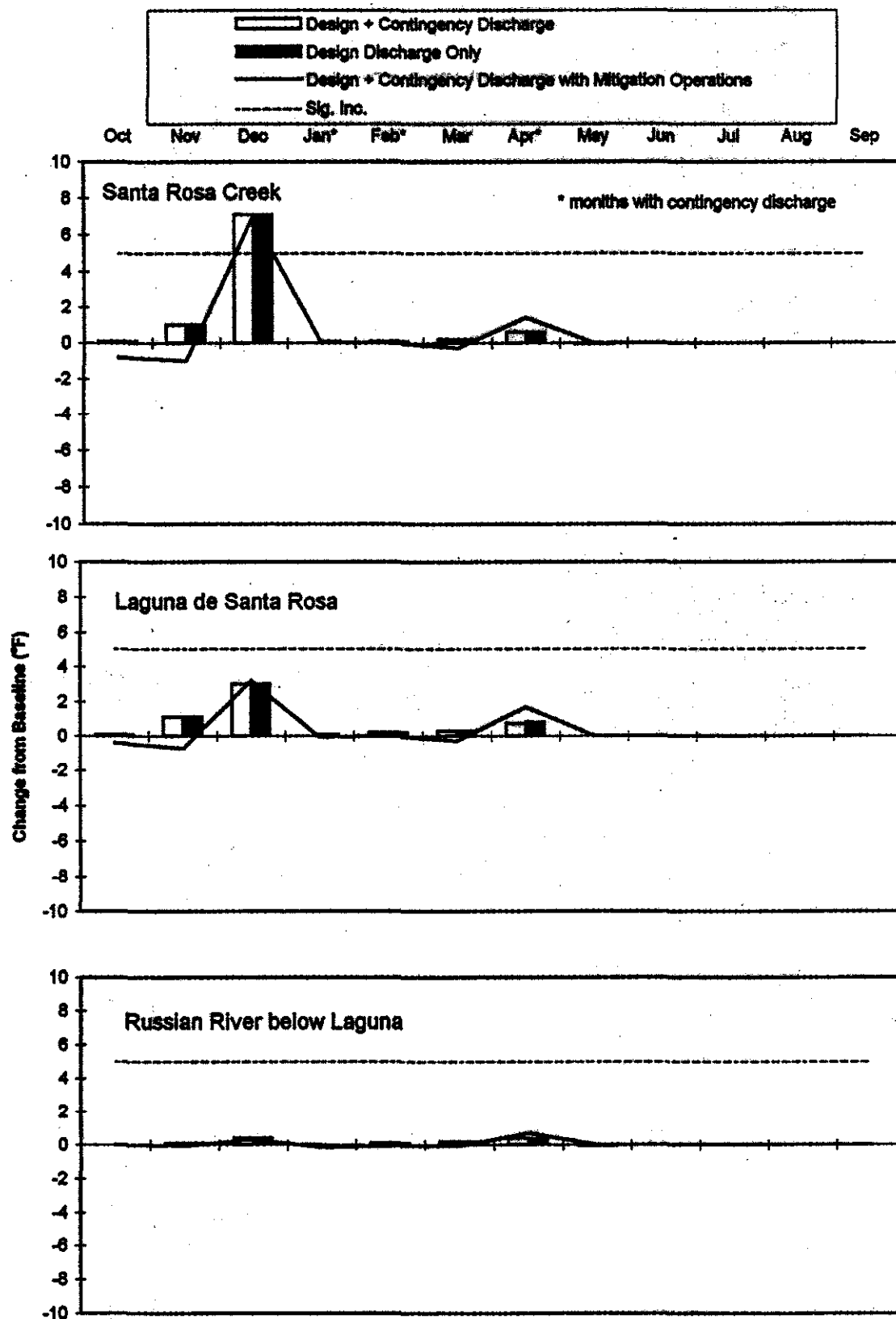


Figure 4-57. Contingency Discharge Impacts on Temperature - 20% Discharge Component

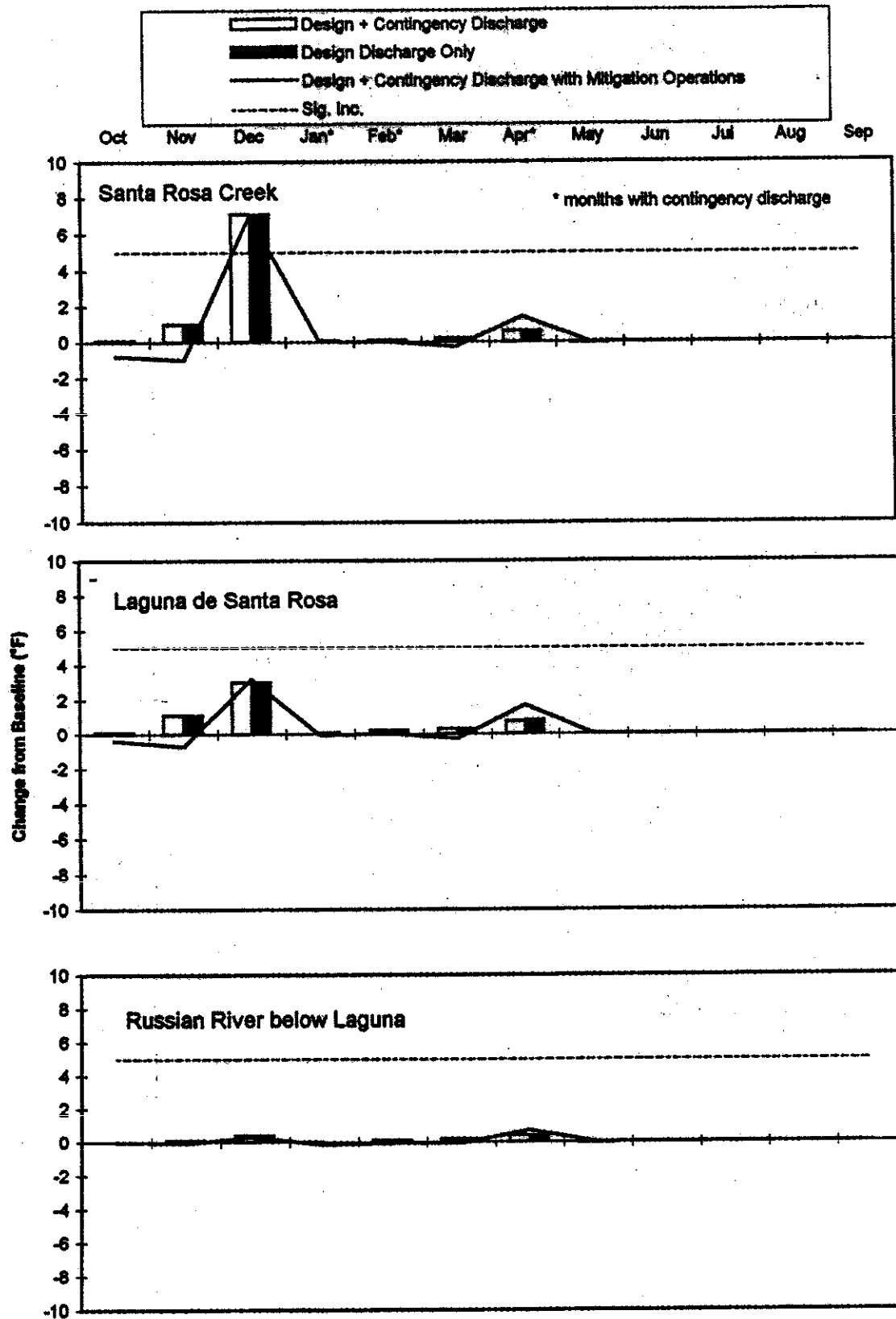


Figure 4-58. Contingency Discharge Impacts on Temperature - 20% Russian River Discharge Component

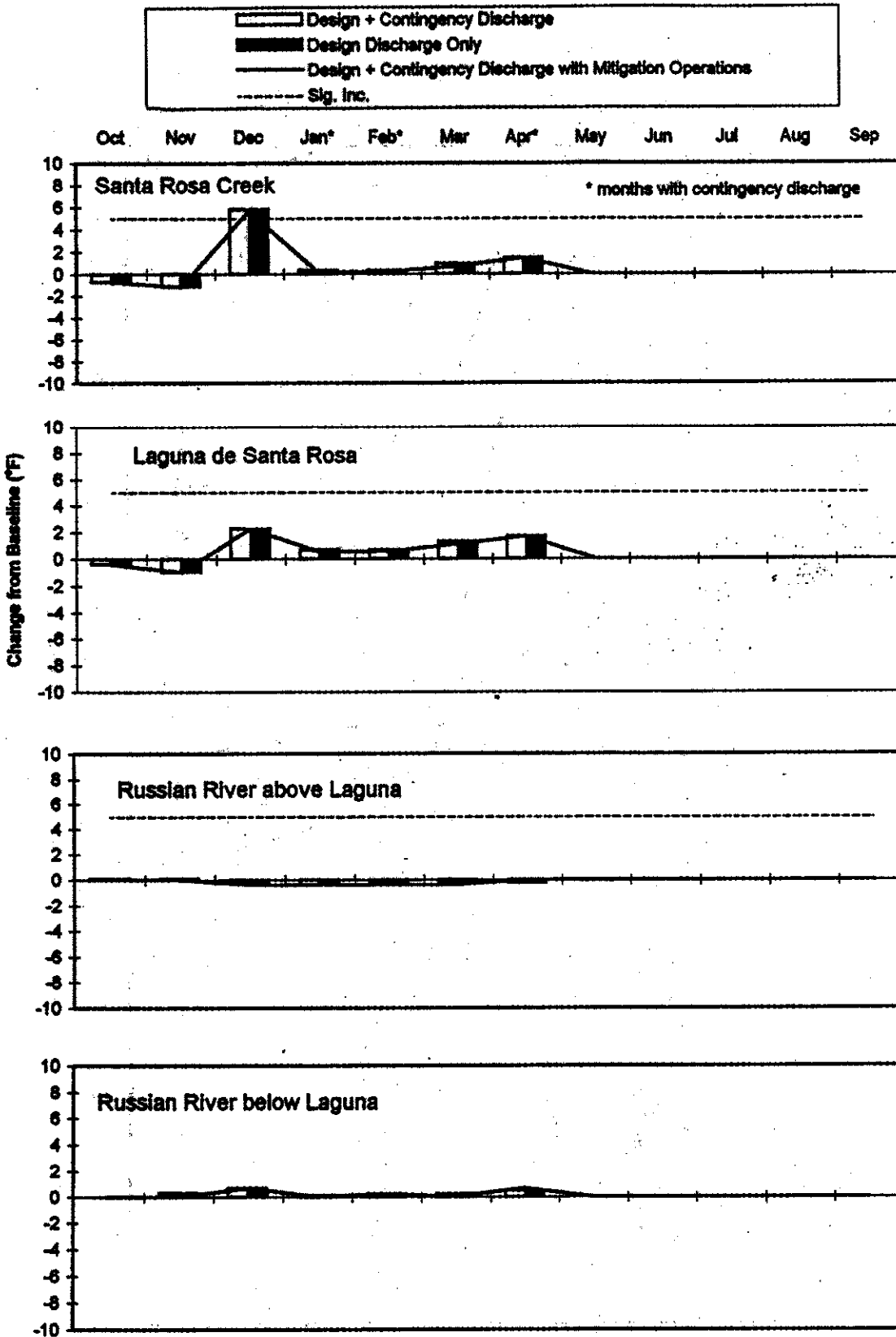


Figure 4-24. Distribution of Reclaimed Water Concentrations During the Discharge Season in a dry year (1976)
Santa Rosa Creek - Mitigation Operation

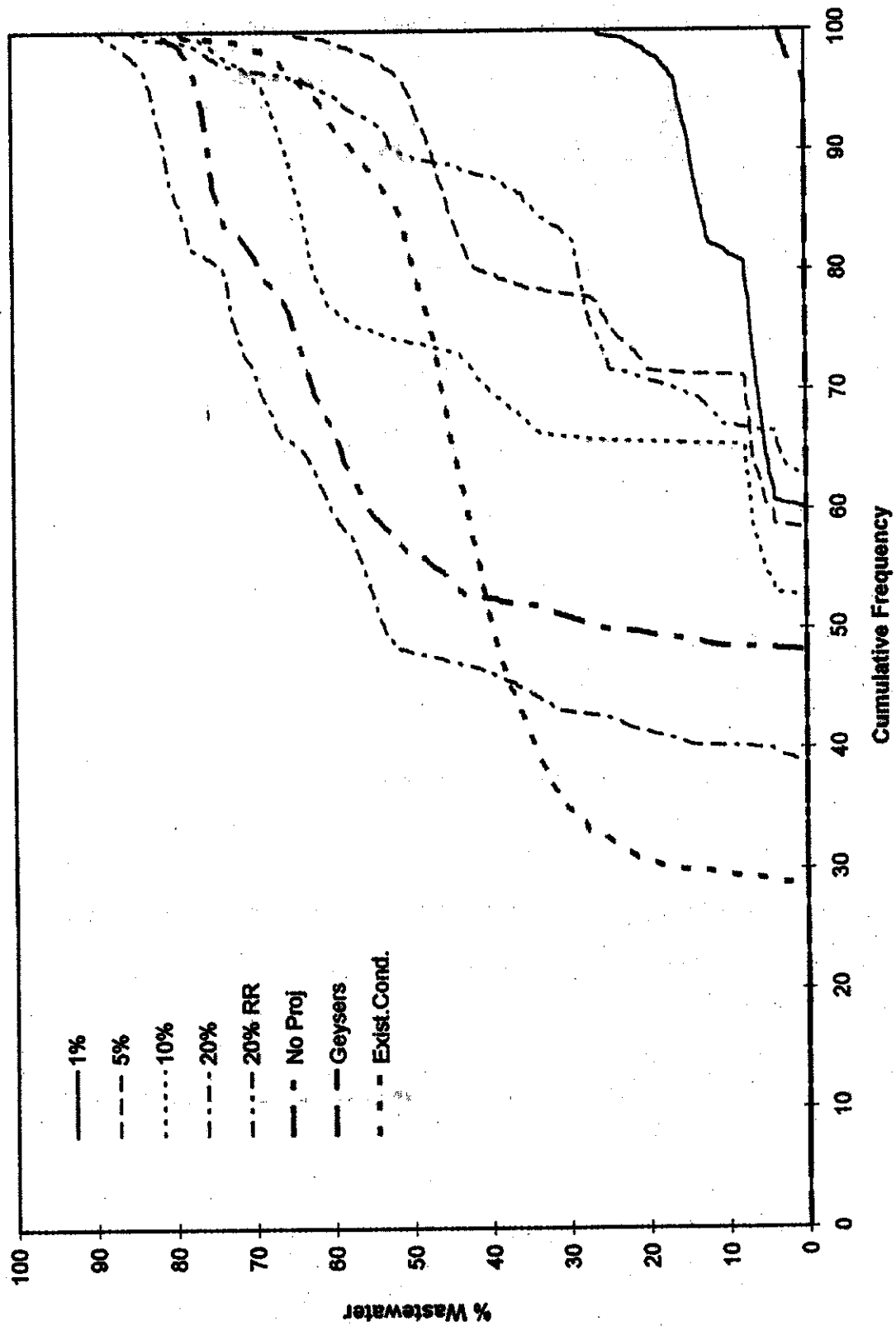


Figure 4-25. Distribution of Reclaimed Water Concentrations During the Discharge Season in a normal year (1961)

Santa Rosa Creek - Mitigation Operation

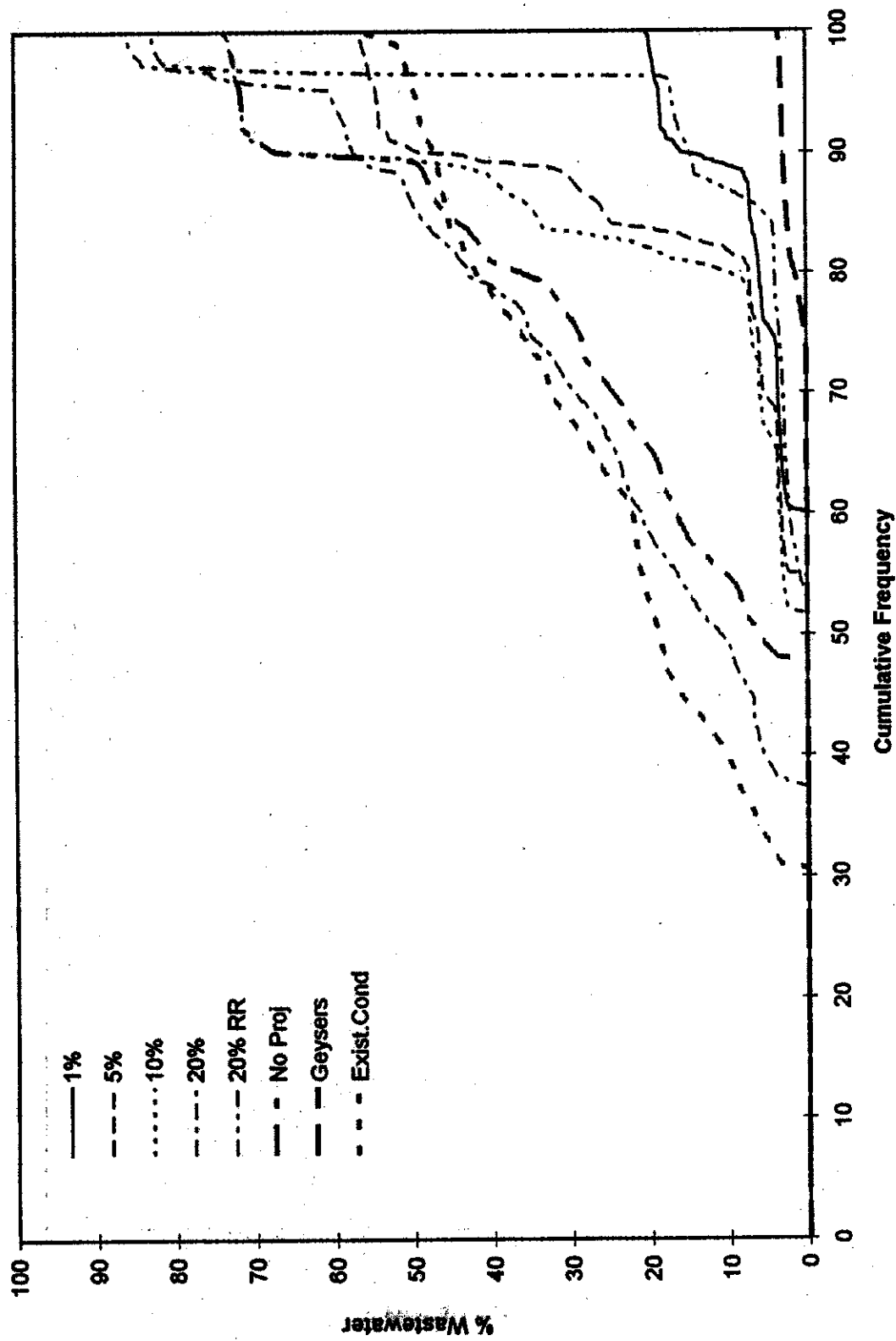
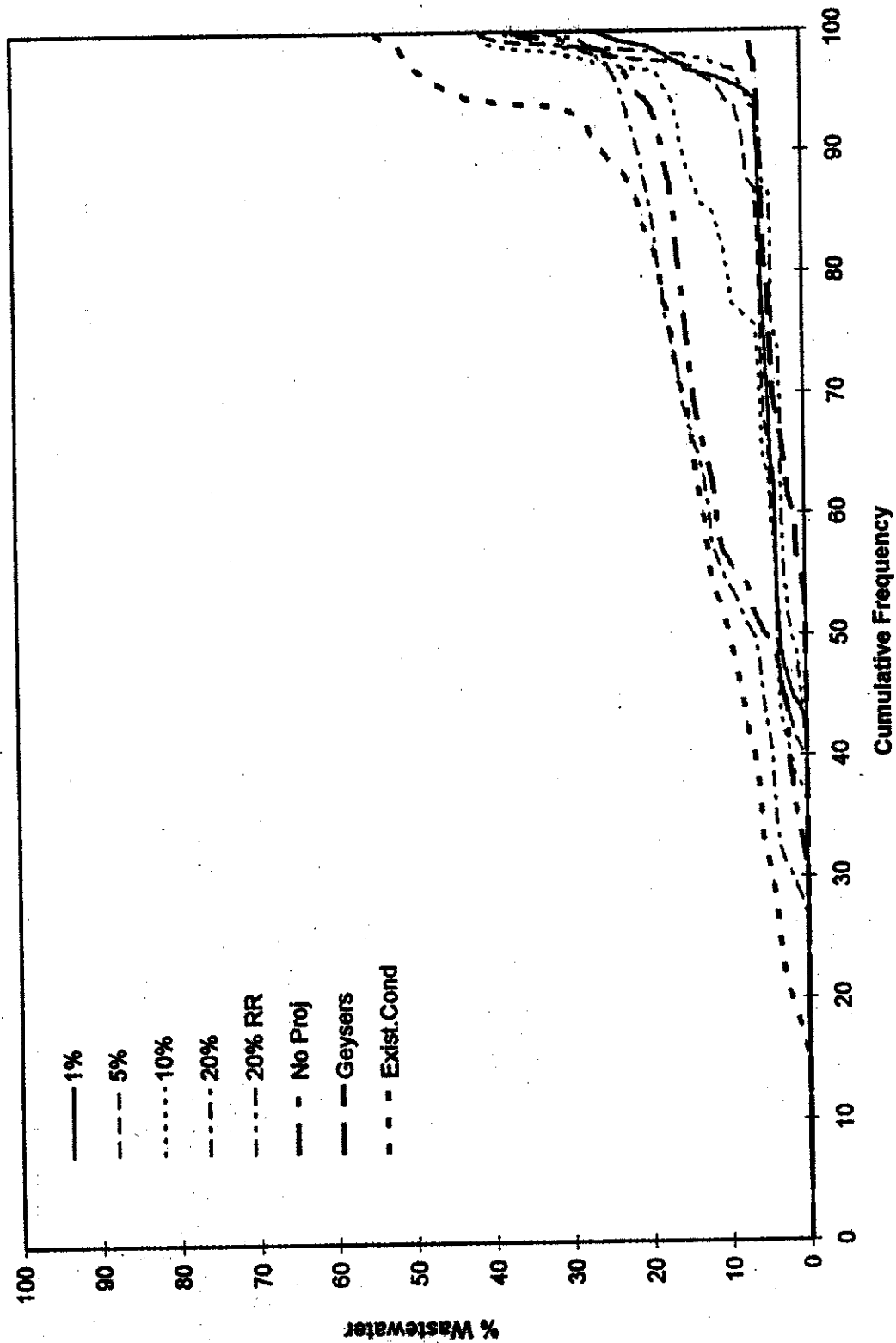


Figure 4-26. Distribution of Reclaimed Water Concentrations During the Discharge Season in a wet year (1982)
Santa Rosa Creek - Mitigation Operation



**Figure 4-28. Distribution of Reclaimed Water Concentrations During the Discharge Season in a normal year
(1961)
Laguna de Santa Rosa - Mitigation Operation**

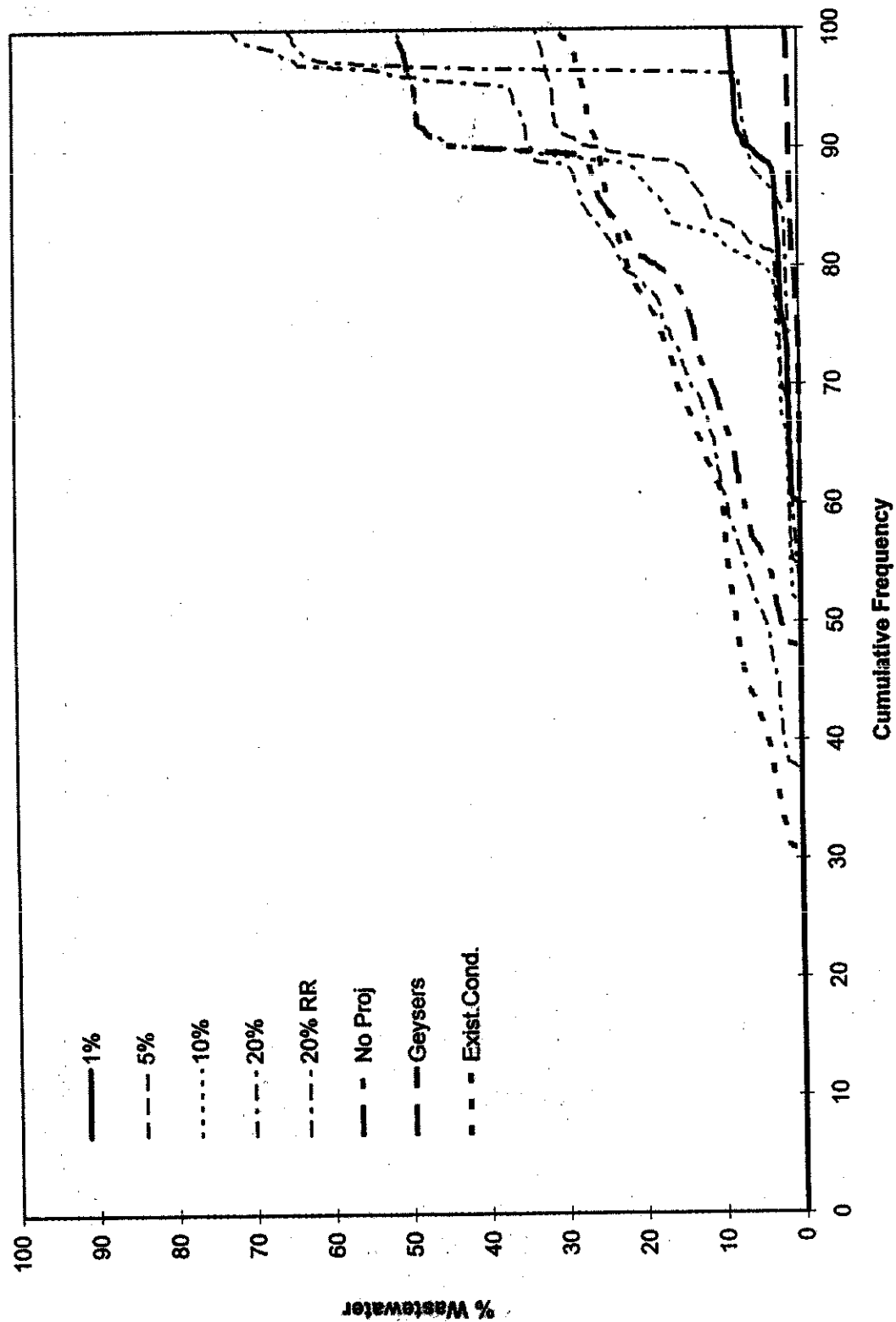


Figure 4-27. Distribution of Reclaimed Water Concentrations During the Discharge Season in a dry year (1976)
Laguna de Santa Rosa - Mitigation Operation

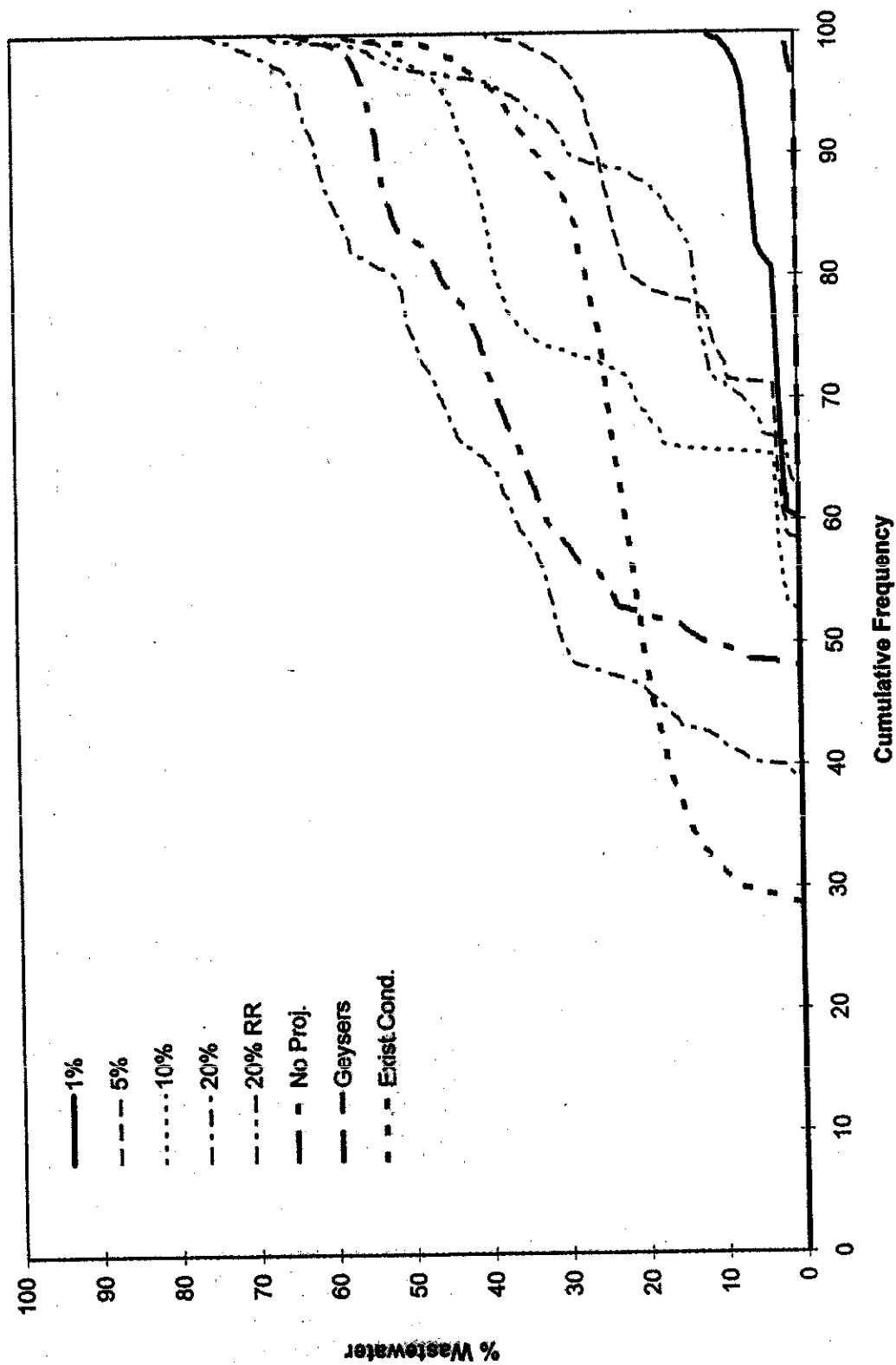
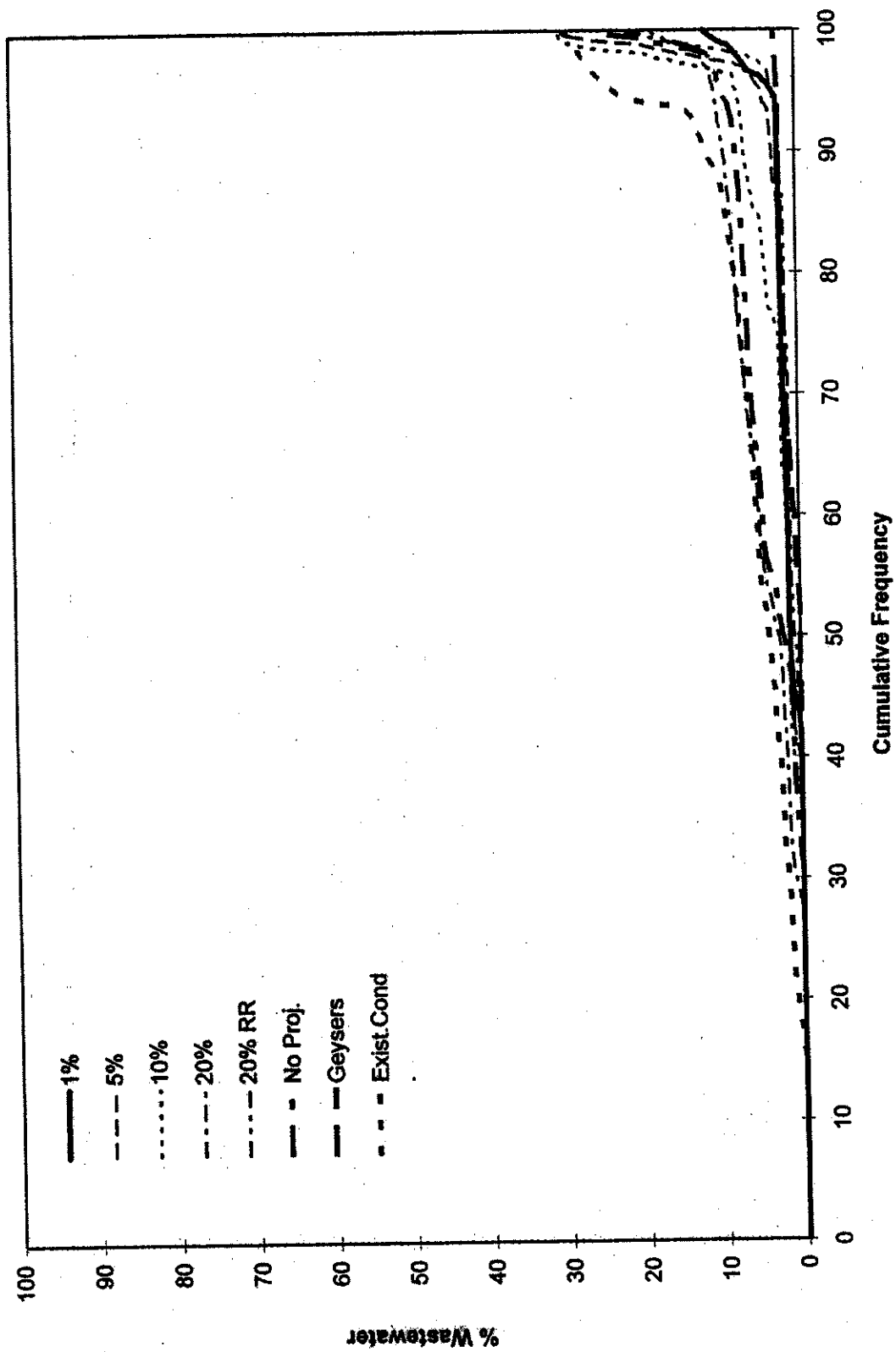
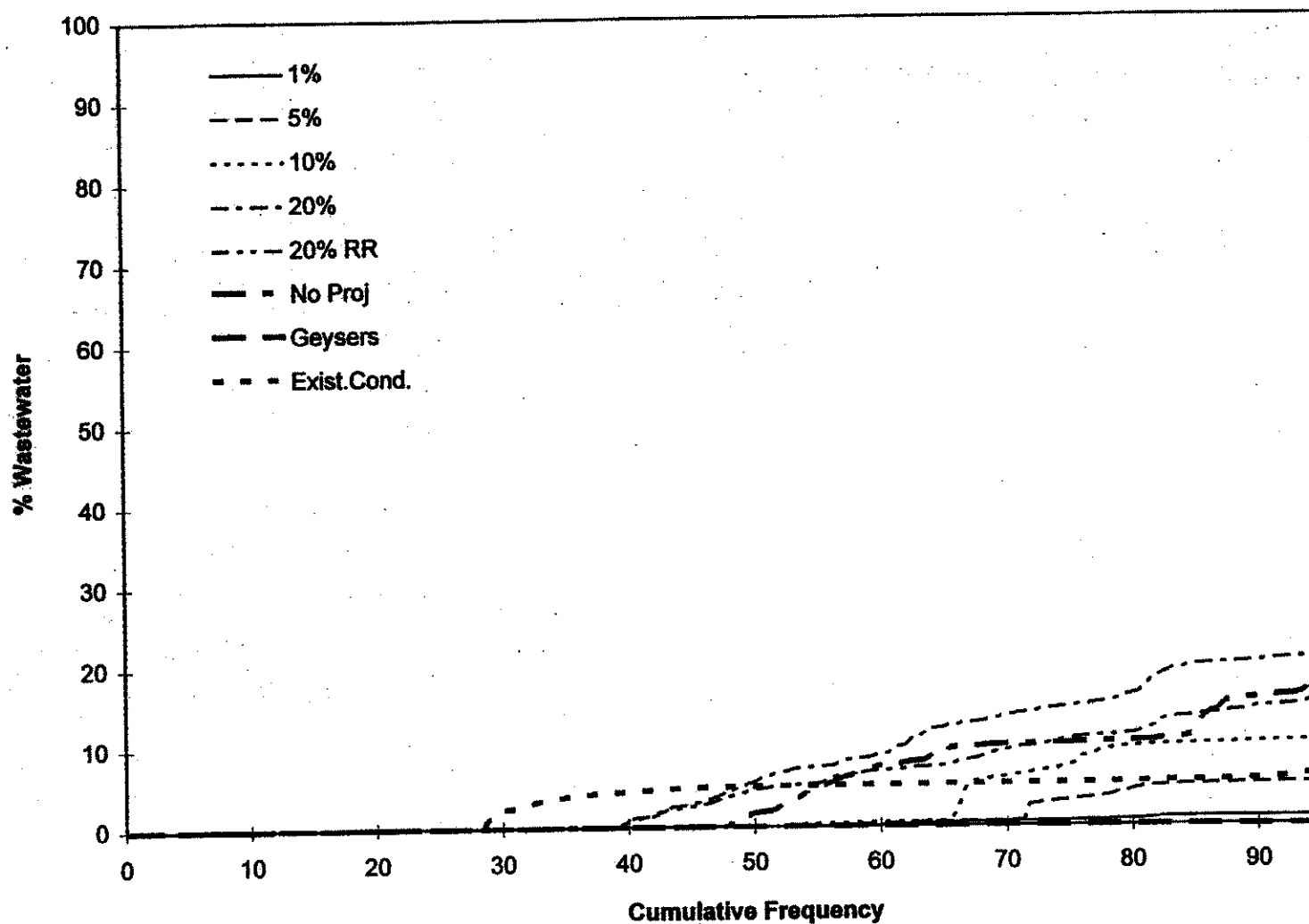


Figure 4-29. Distribution of Reclaimed Water Concentrations During the Discharge Season in a wet year (1982)
Laguna de Santa Rosa - Mitigation Operation



**Figure 4-30. Distribution of Reclaimed Water Concentrations During the Discharge Season i
Russian River Below Laguna - Mitigation Operation**



**Figure 4-31. Distribution of Reclaimed Water Concentrations During the Discharge
in a normal year (1961)
Russian River Below Laguna - Mitigation Operation**

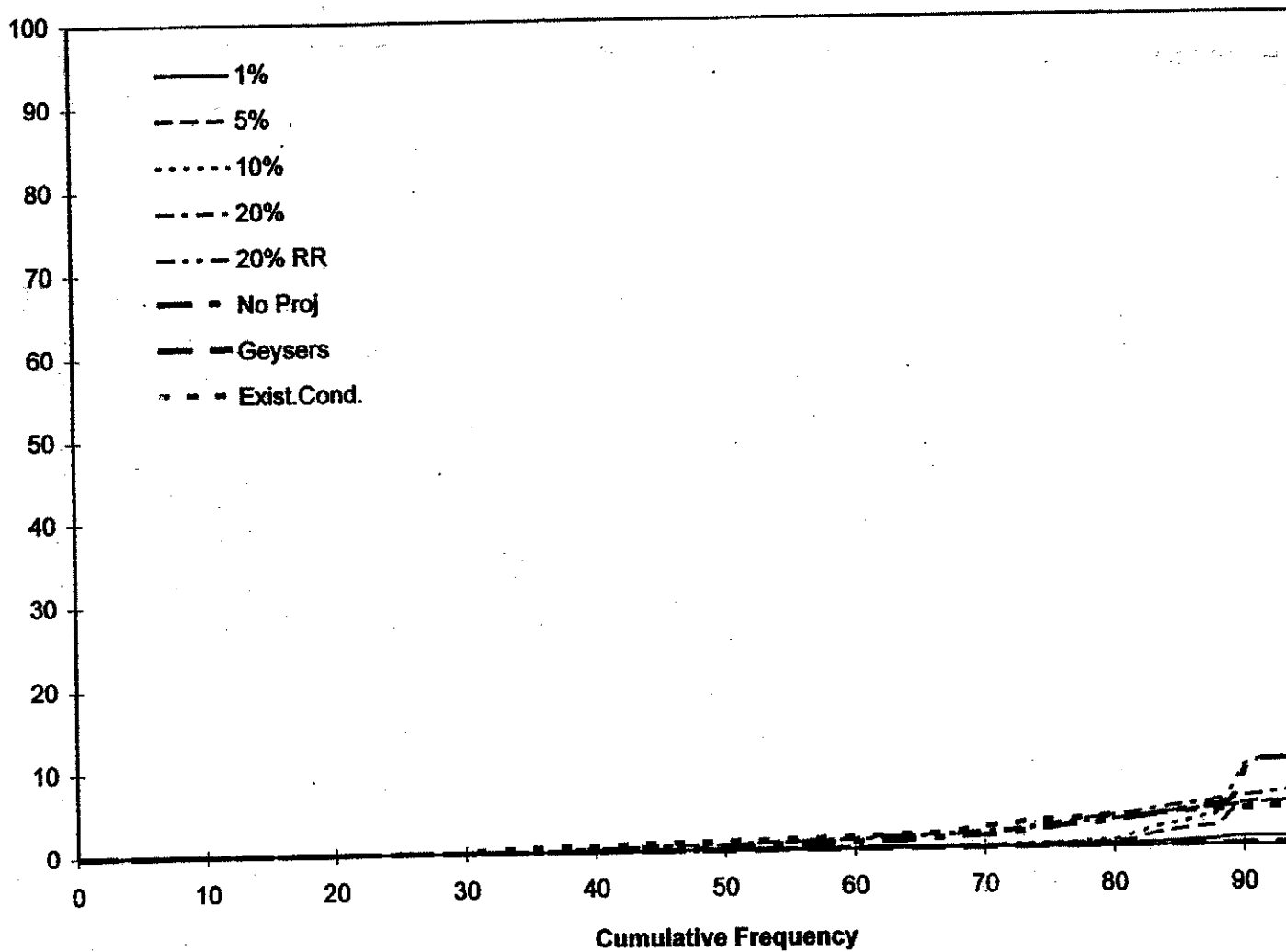
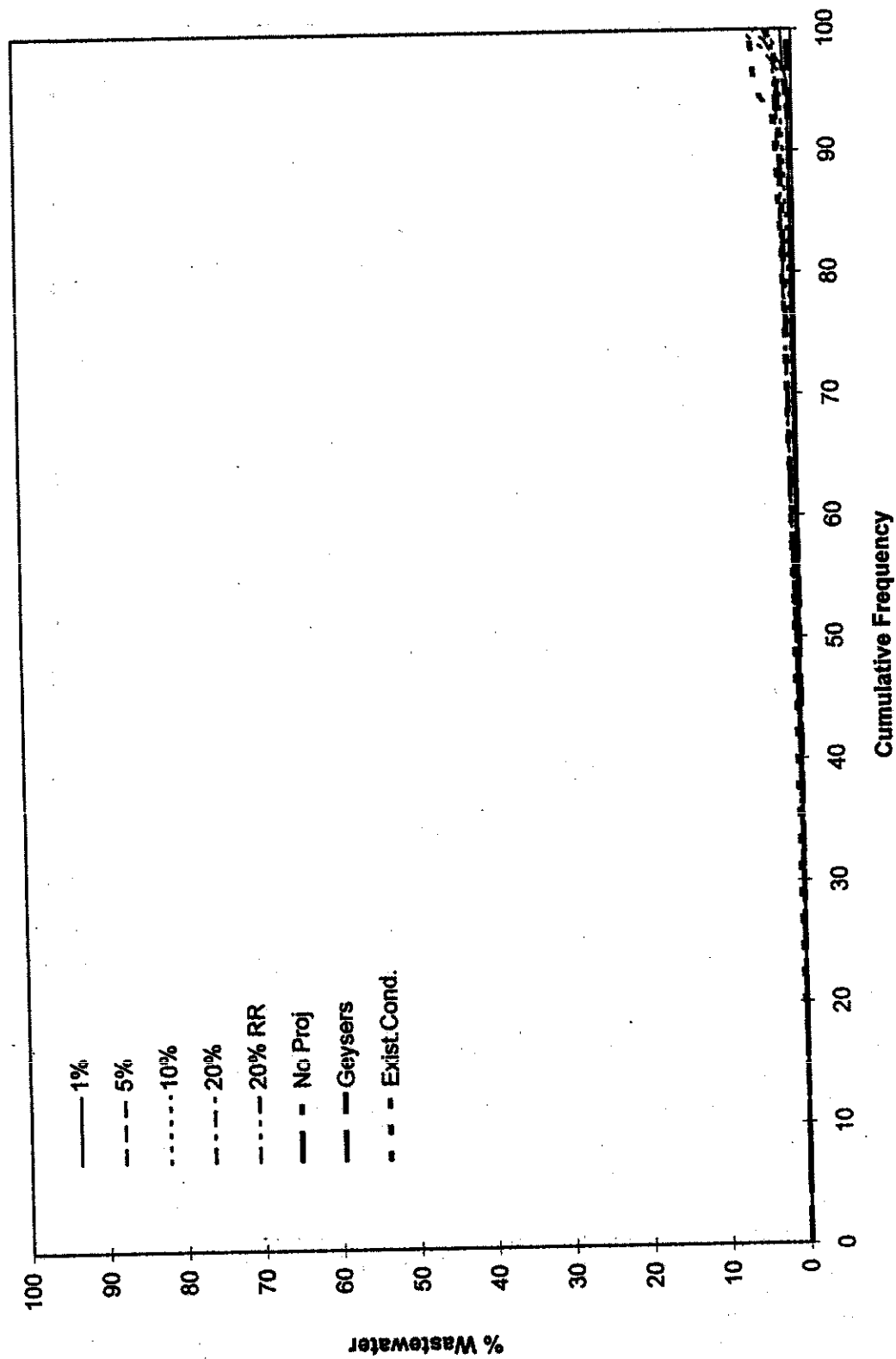
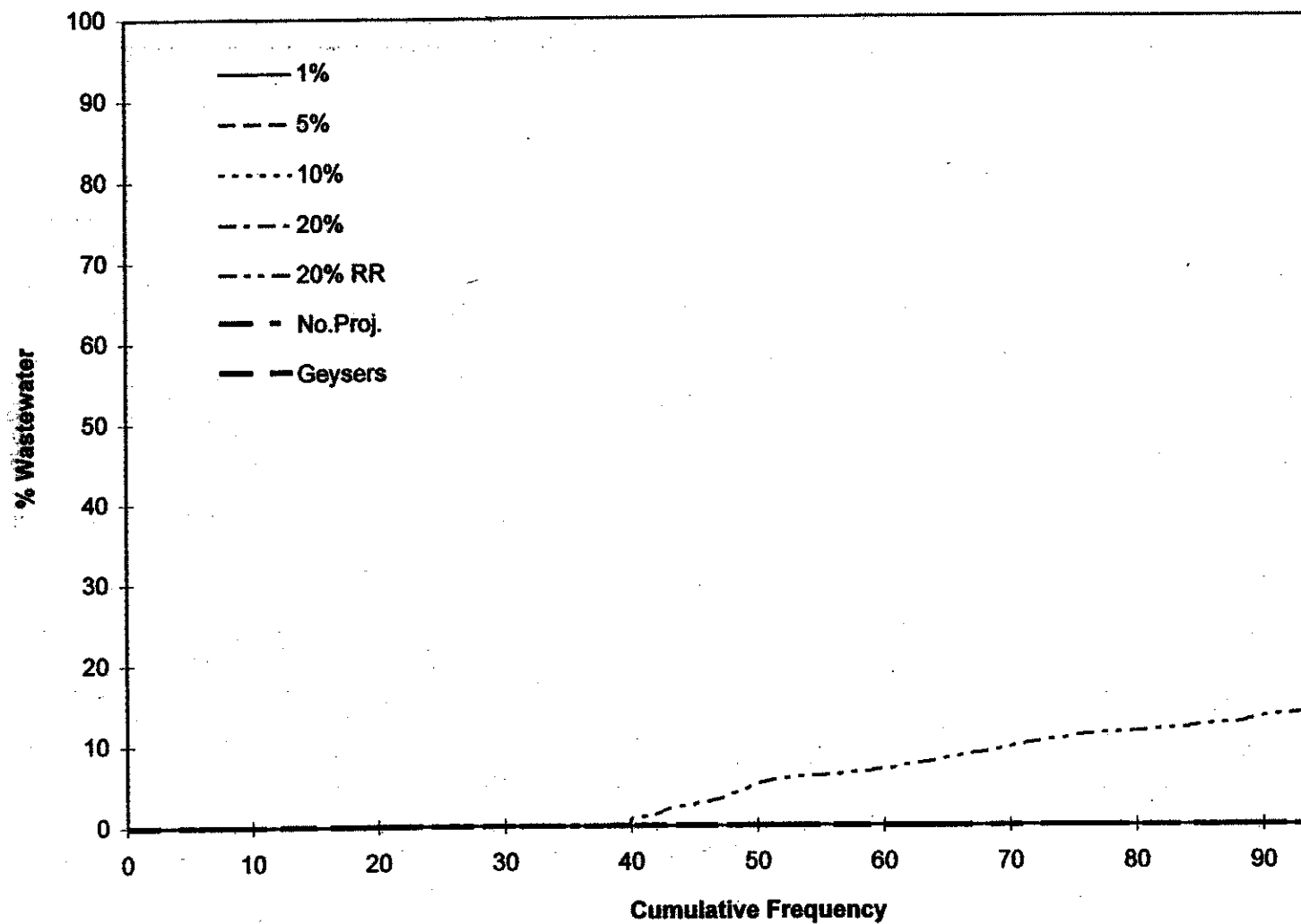


Figure 4-32. Distribution of Reclaimed Water Concentrations During the Discharge Season in a wet year (1982)
Russian River Below Laguna - Mitigation Operations



**Figure 4-33. Distribution of Reclaimed Water Concentrations During the Discharge Season
Russian River Above Laguna - Mitigation Operation**



**Figure 4-34. Distribution of Reclaimed Water Concentrations During the Discharge
in a normal year (1961)
Russian River Above Laguna - Mitigation Operation**

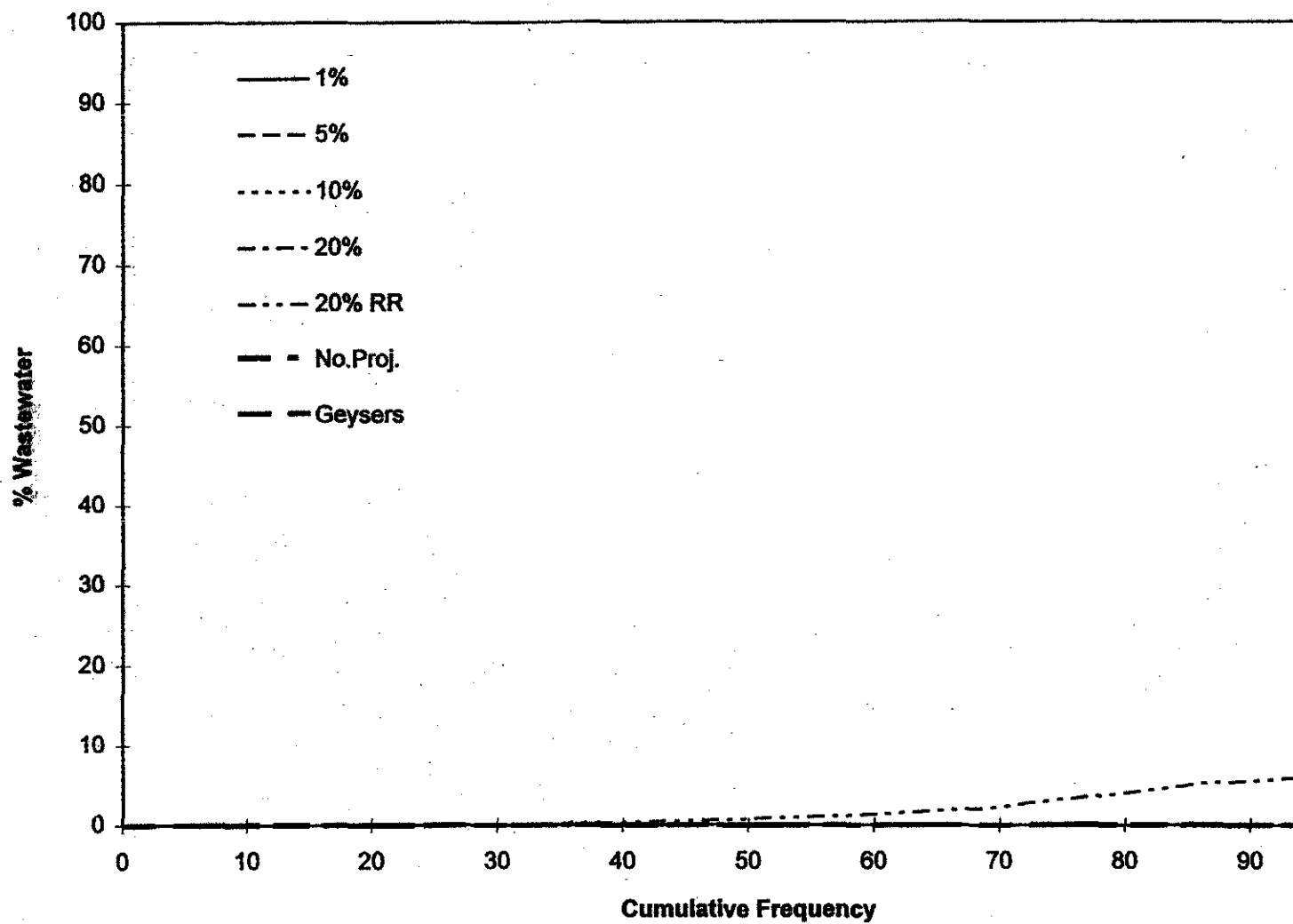


Figure 4-35. Distribution of Reclaimed Water Concentrations During the Discharge Season in a wet year (1982)
Russian River Above Laguna - Mitigation Operation

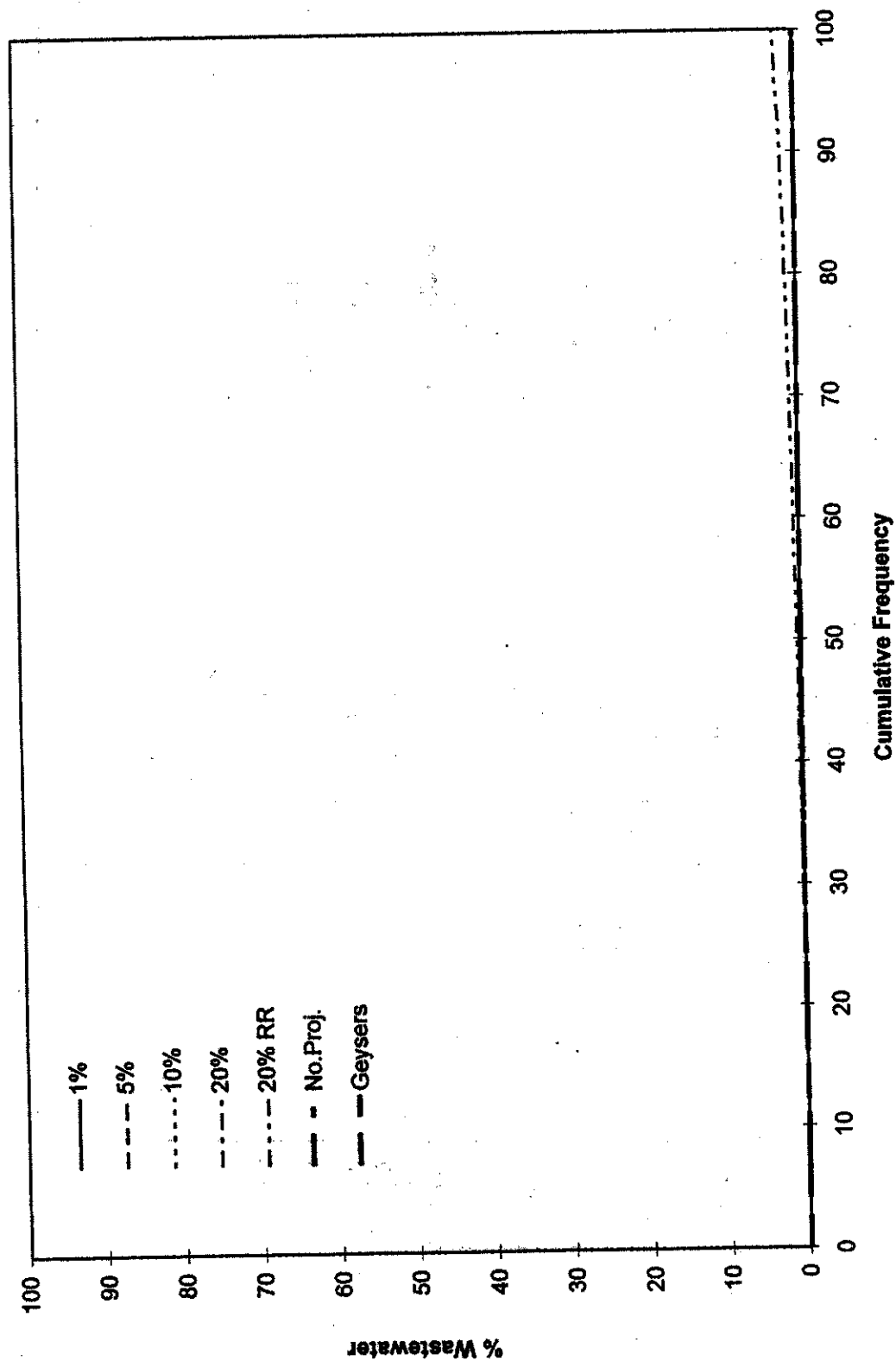
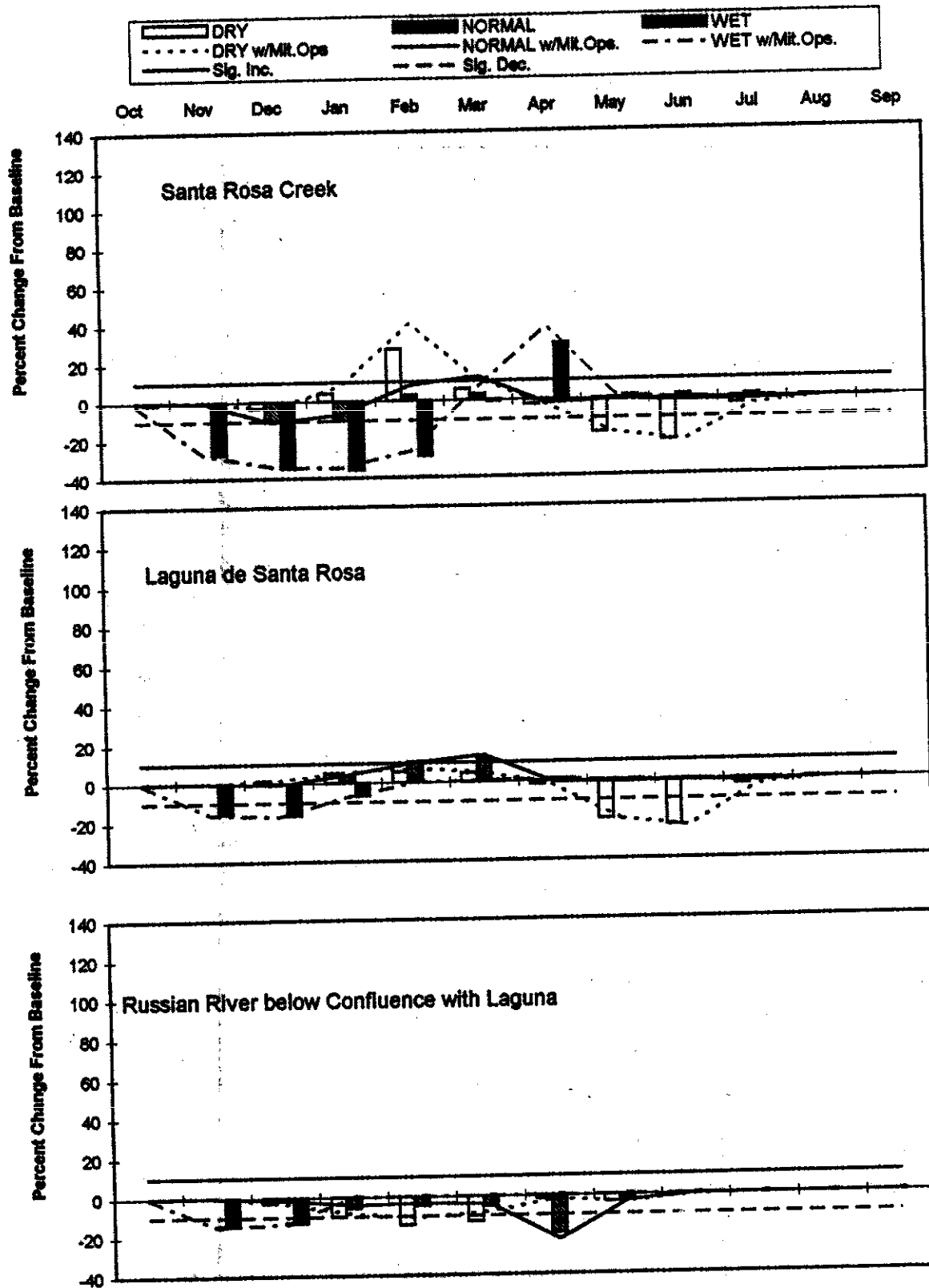


Figure 4-36. Discharge Impacts on Benthic Algae - 1% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations



**Figure 4-36. Discharge Impacts on Benthic Algae - 5% Discharge to Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations**

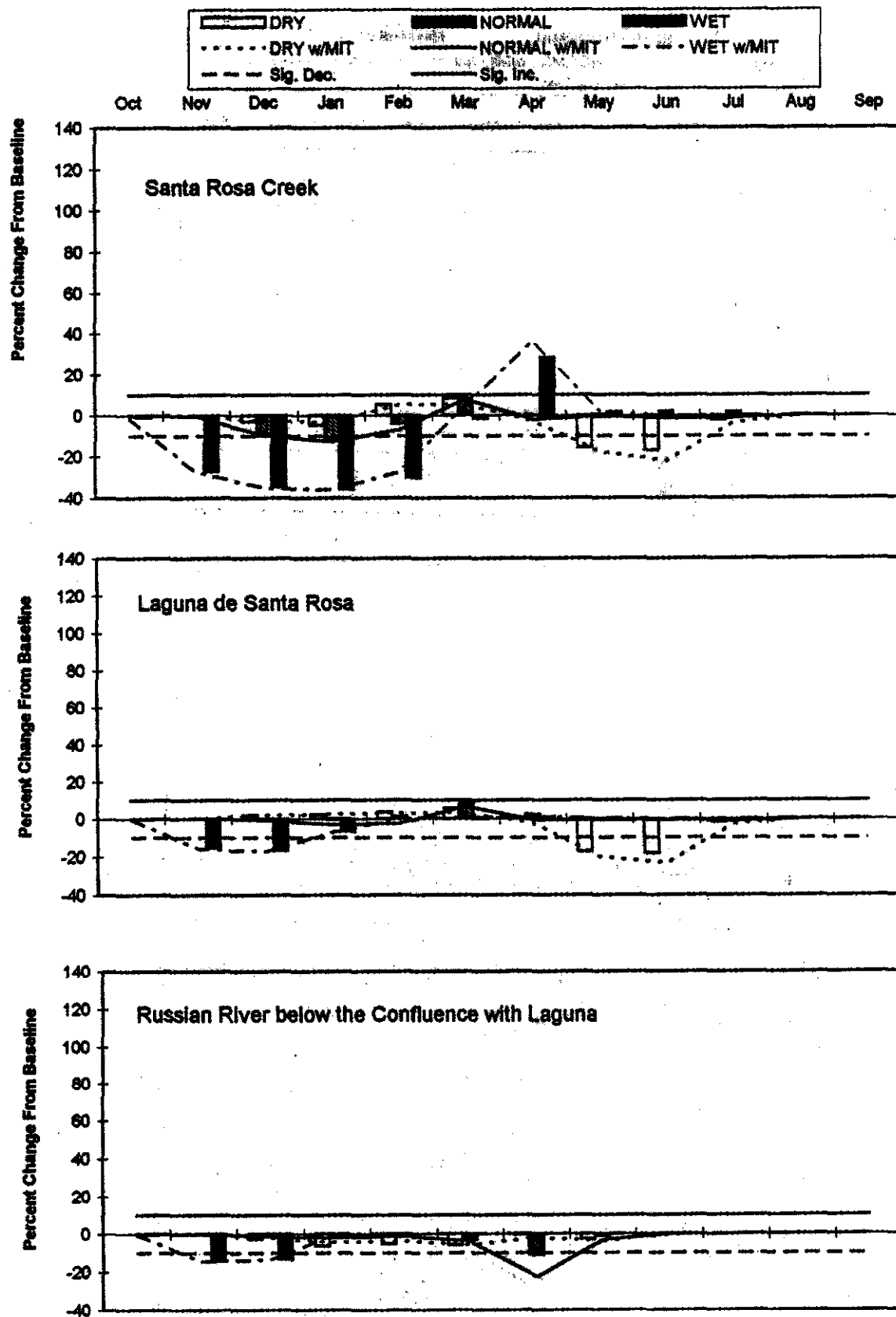


Figure 4-36. Discharge Impacts on Benthic Algae - 10% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations

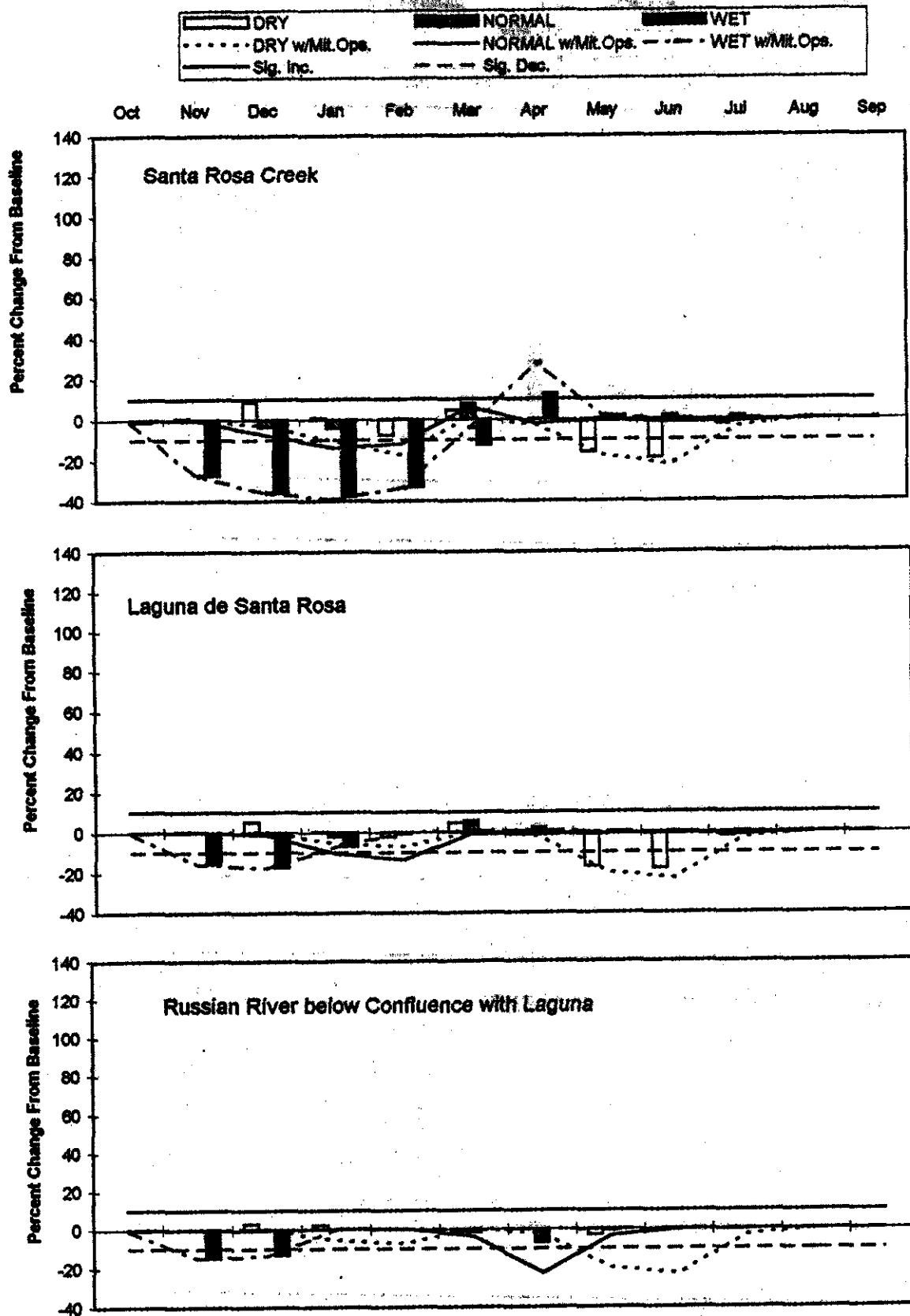


Figure 4-36. Discharge Impacts on Benthic Algae - 20% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations

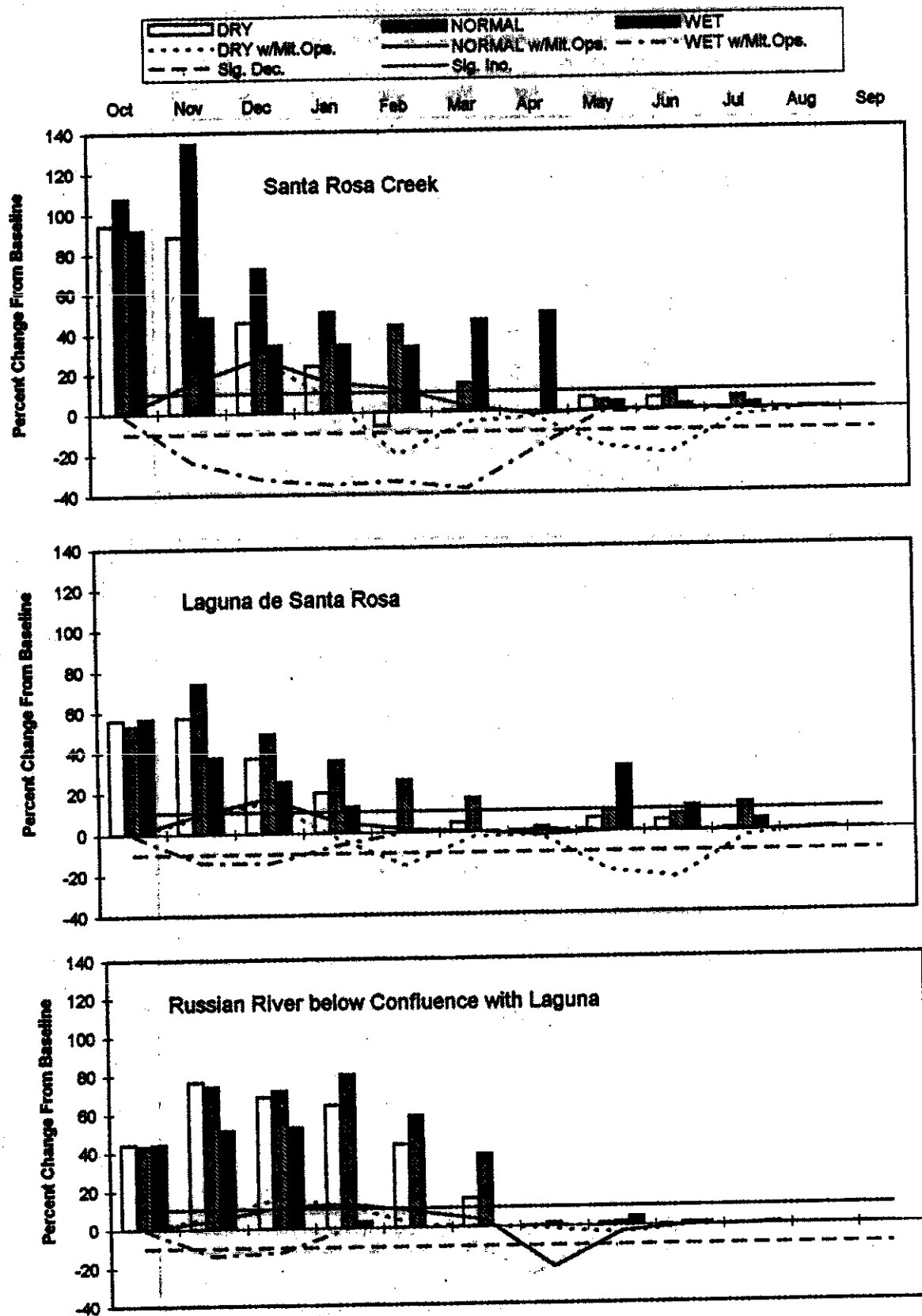
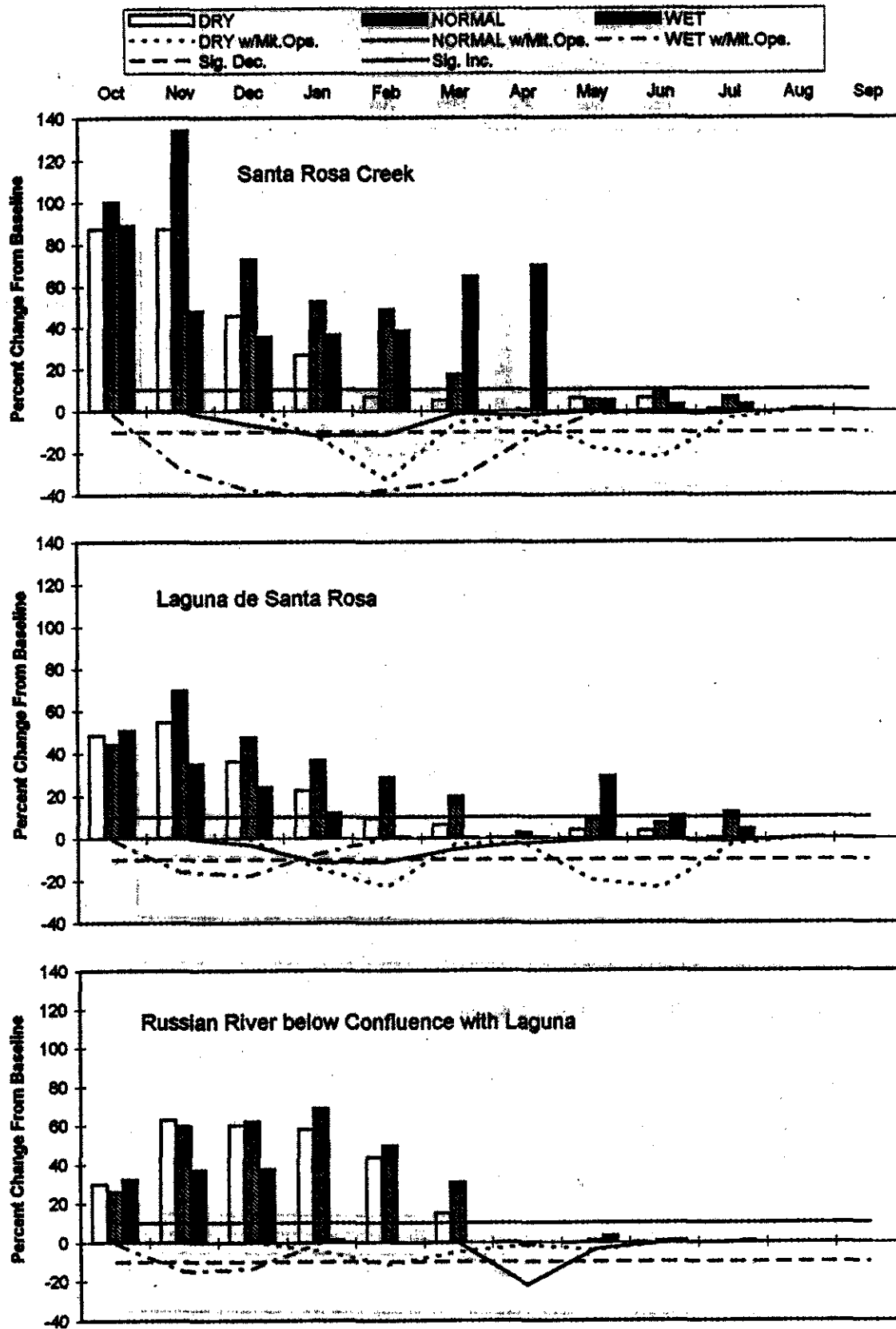
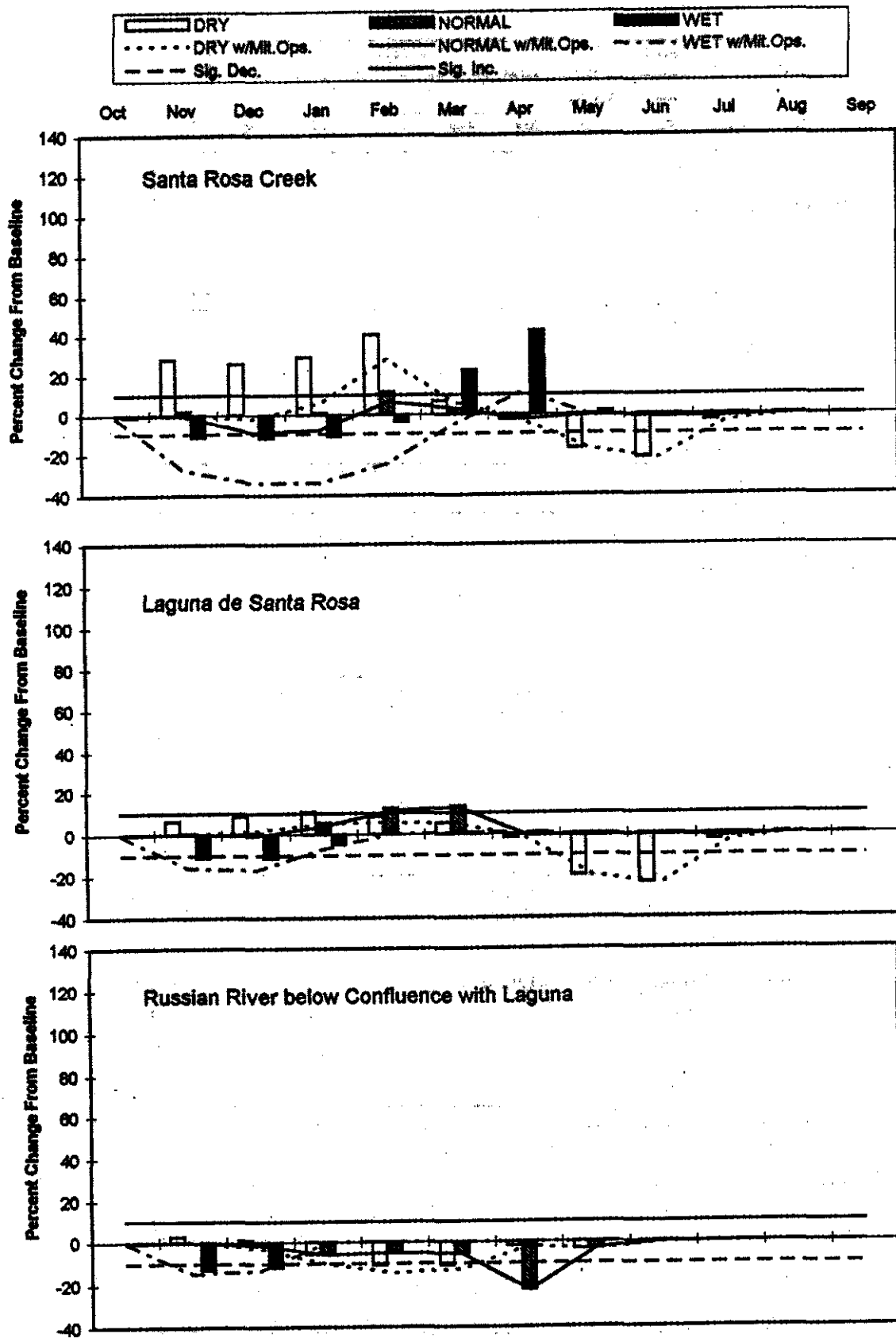


Figure 4-36. Discharge Impacts on Benthic Algae - No Project Alternative
Existing Conditions Baseline - Project and Mitigation Operations



**Figure 4-36. Discharge Impacts on Benthic Algae - Geysers Alternative
Existing Conditions Baseline - Project and Mitigation Operations**



**Figure 4-36. Discharge Impacts on Benthic Algae - 20% Discharge to Russian River
Existing Conditions Baseline - Project and Mitigation Operations**

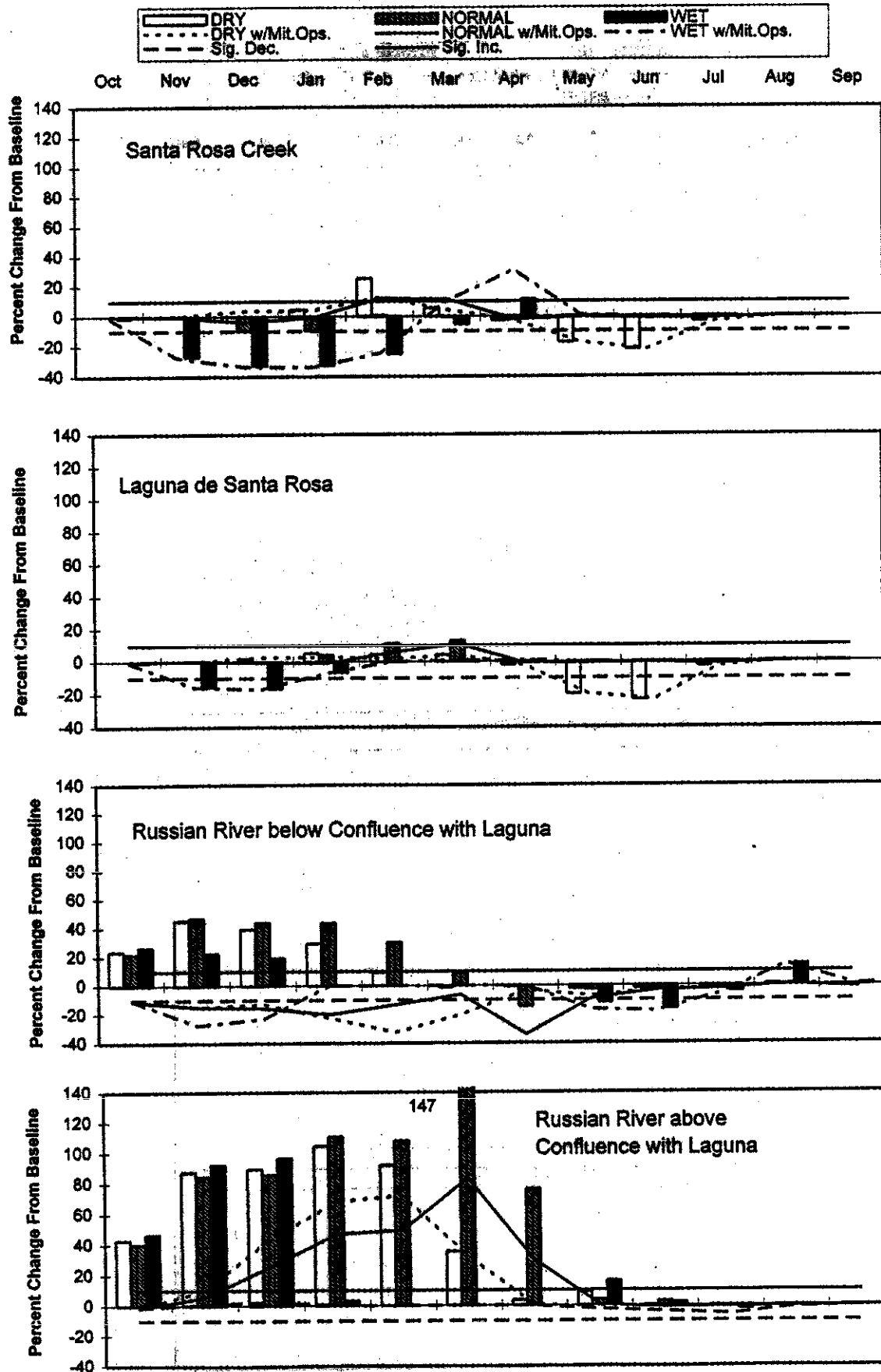


Figure 4-37. Discharge Impacts on Planktonic Algae - 1% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations

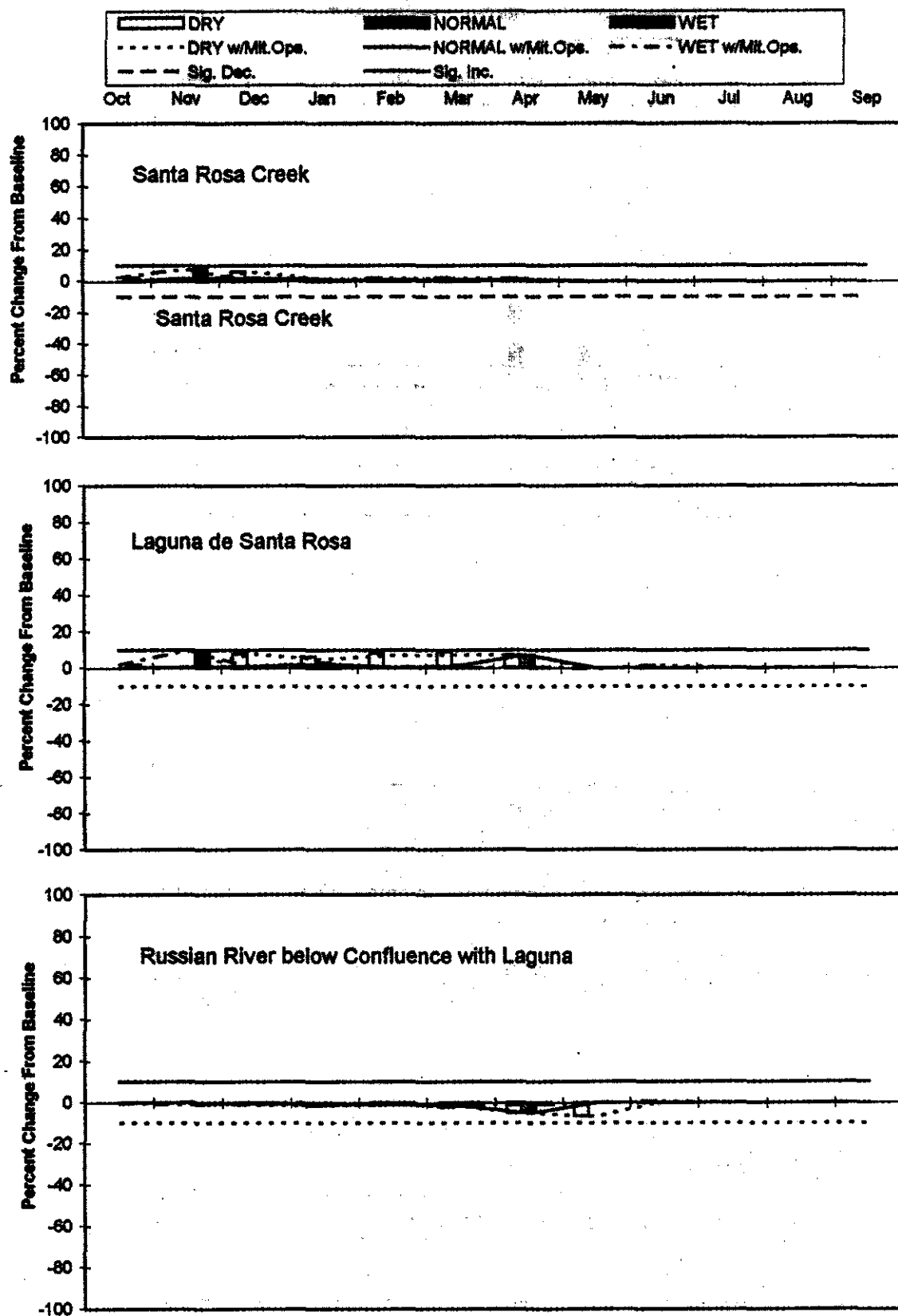


Figure 4-37. Discharge Impacts on Planktonic Algae - 5% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations

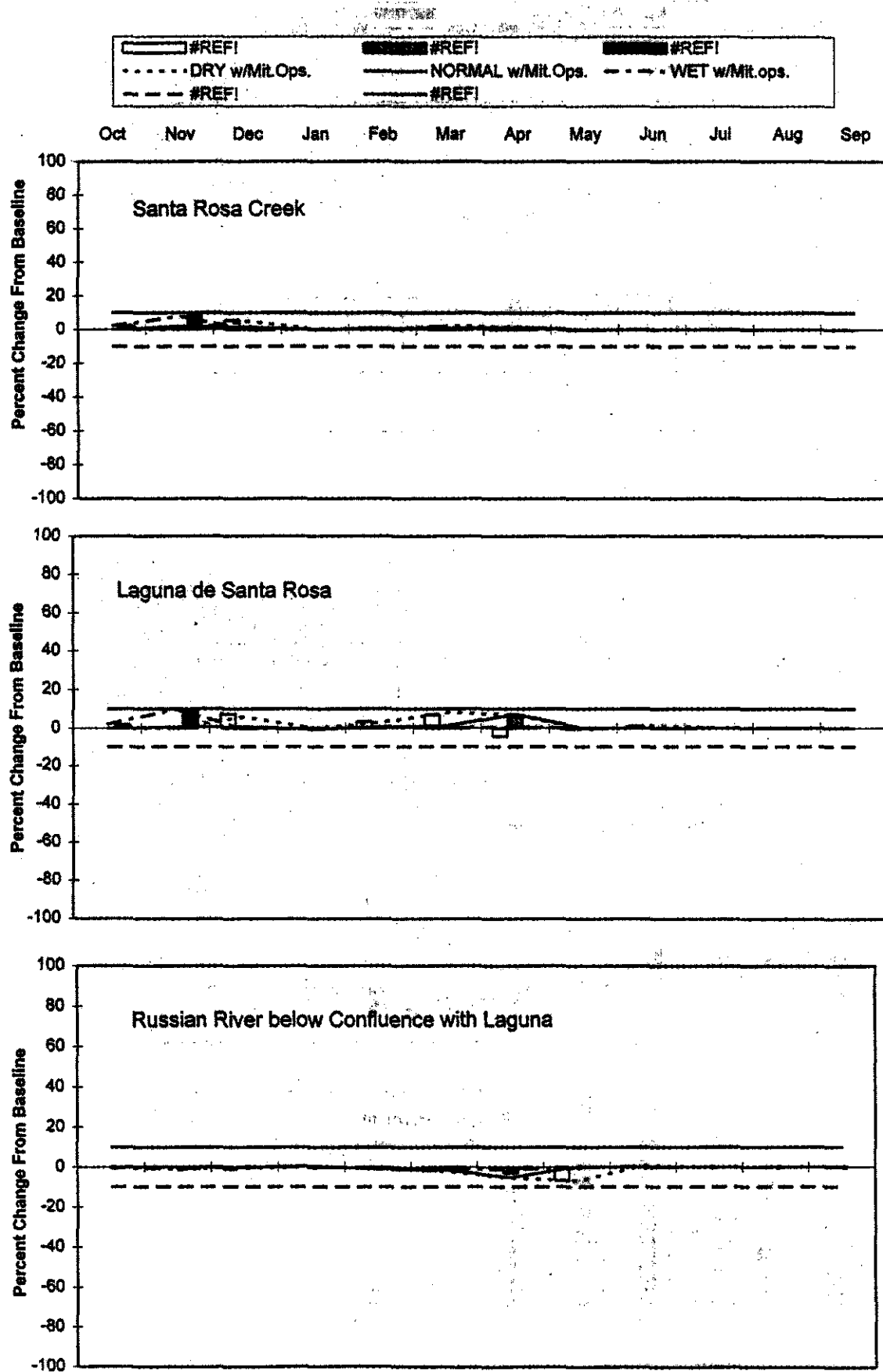


Figure 4-37. Discharge Impacts on Planktonic Algae - 10% Discharge to the Laguna de Santa Rosa

Existing Conditions Baseline - Project and Mitigation Operations

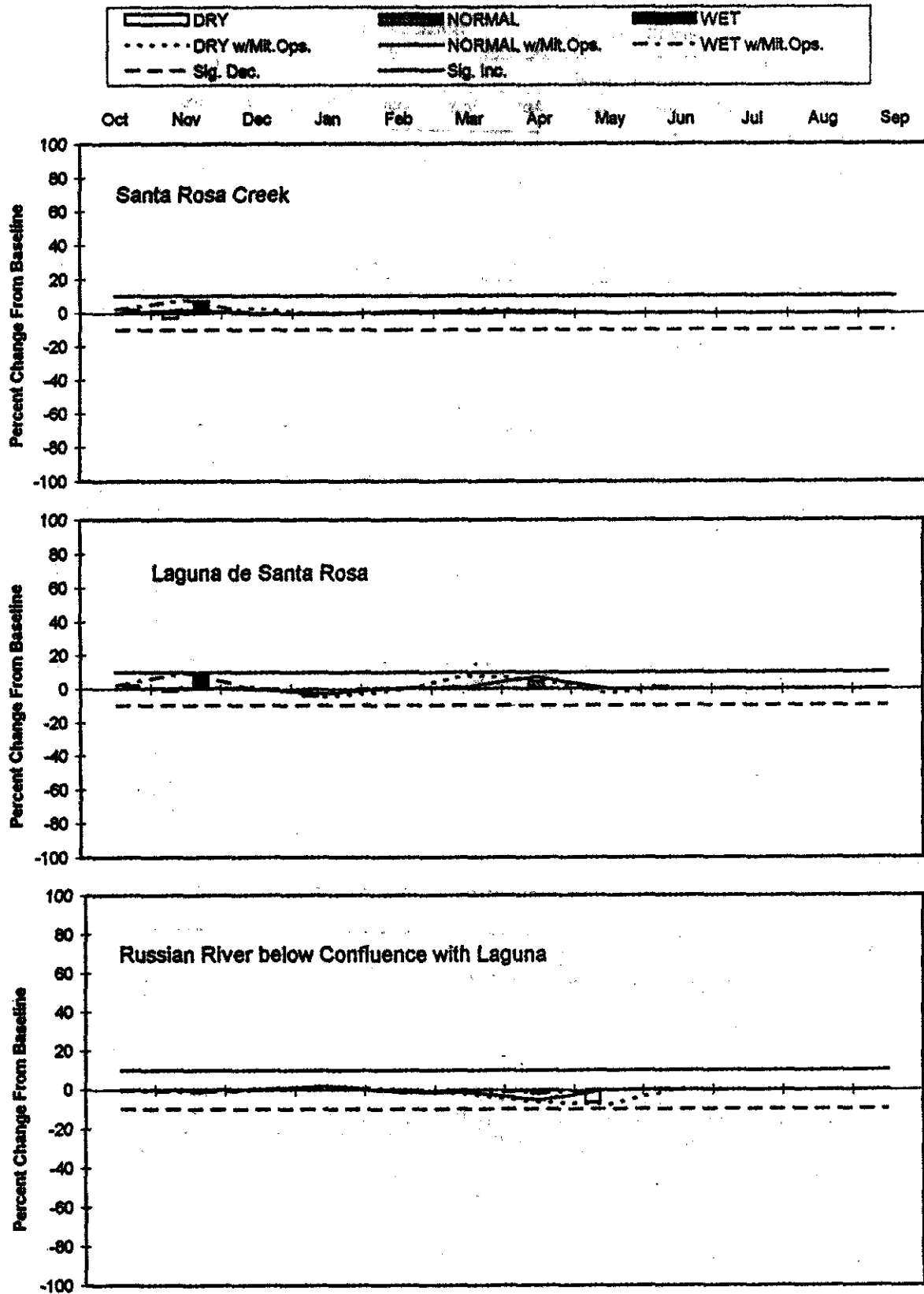


Figure 4-37. Discharge Impacts on Planktonic Algae - 20% Discharge to the Laguna de Santa Rosa

Existing Conditions Baseline - Project and Mitigation Operations

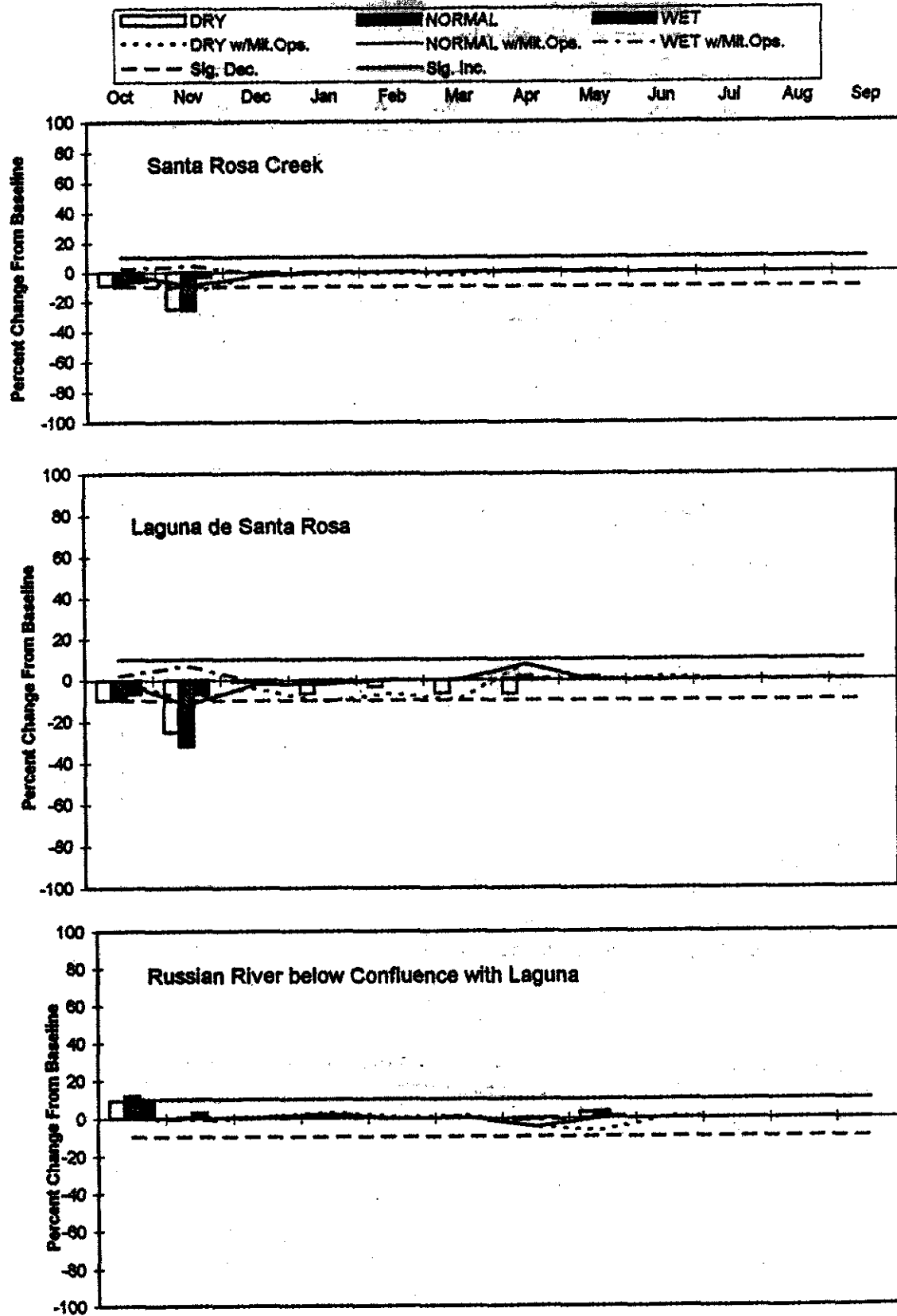
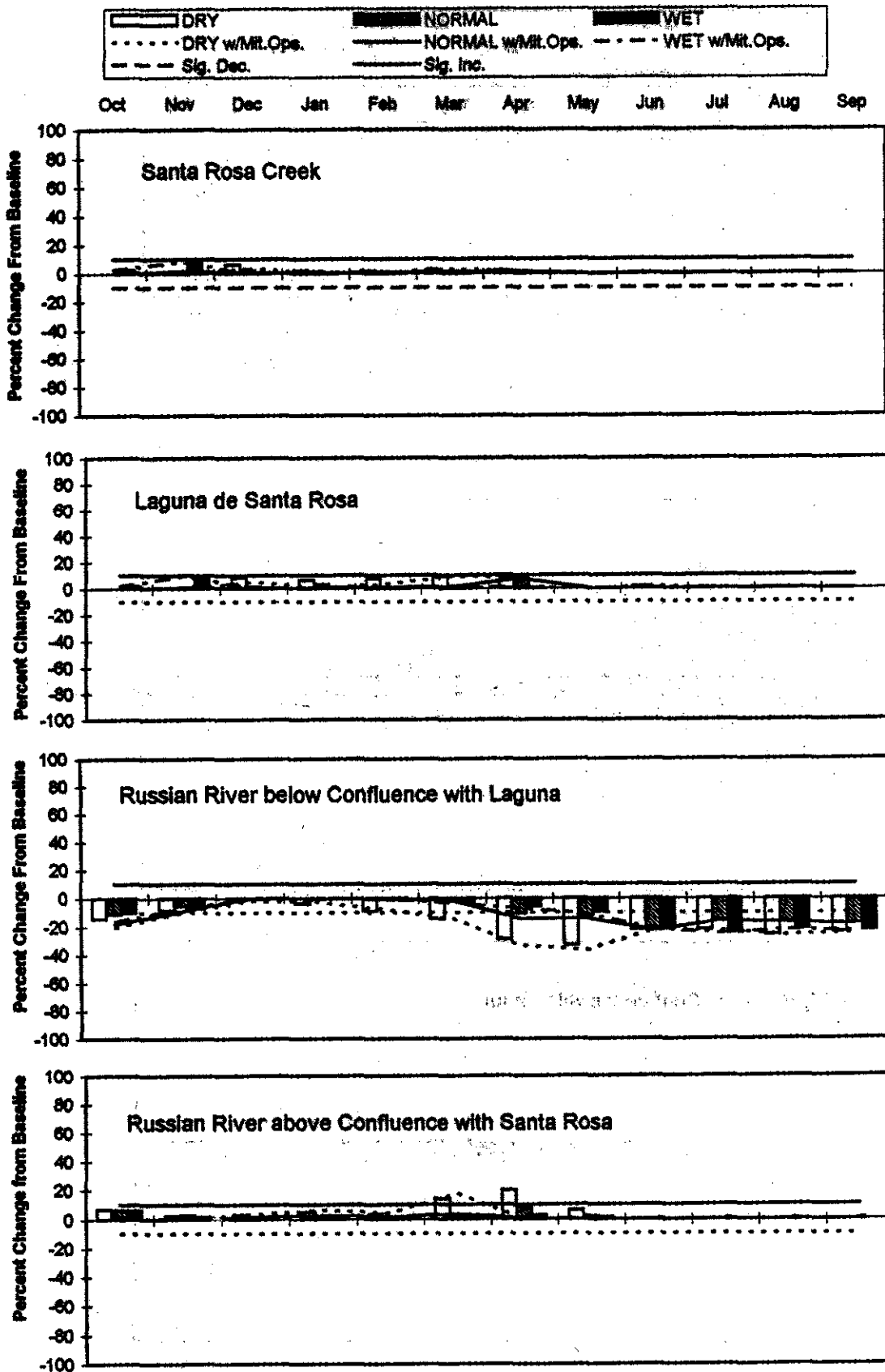
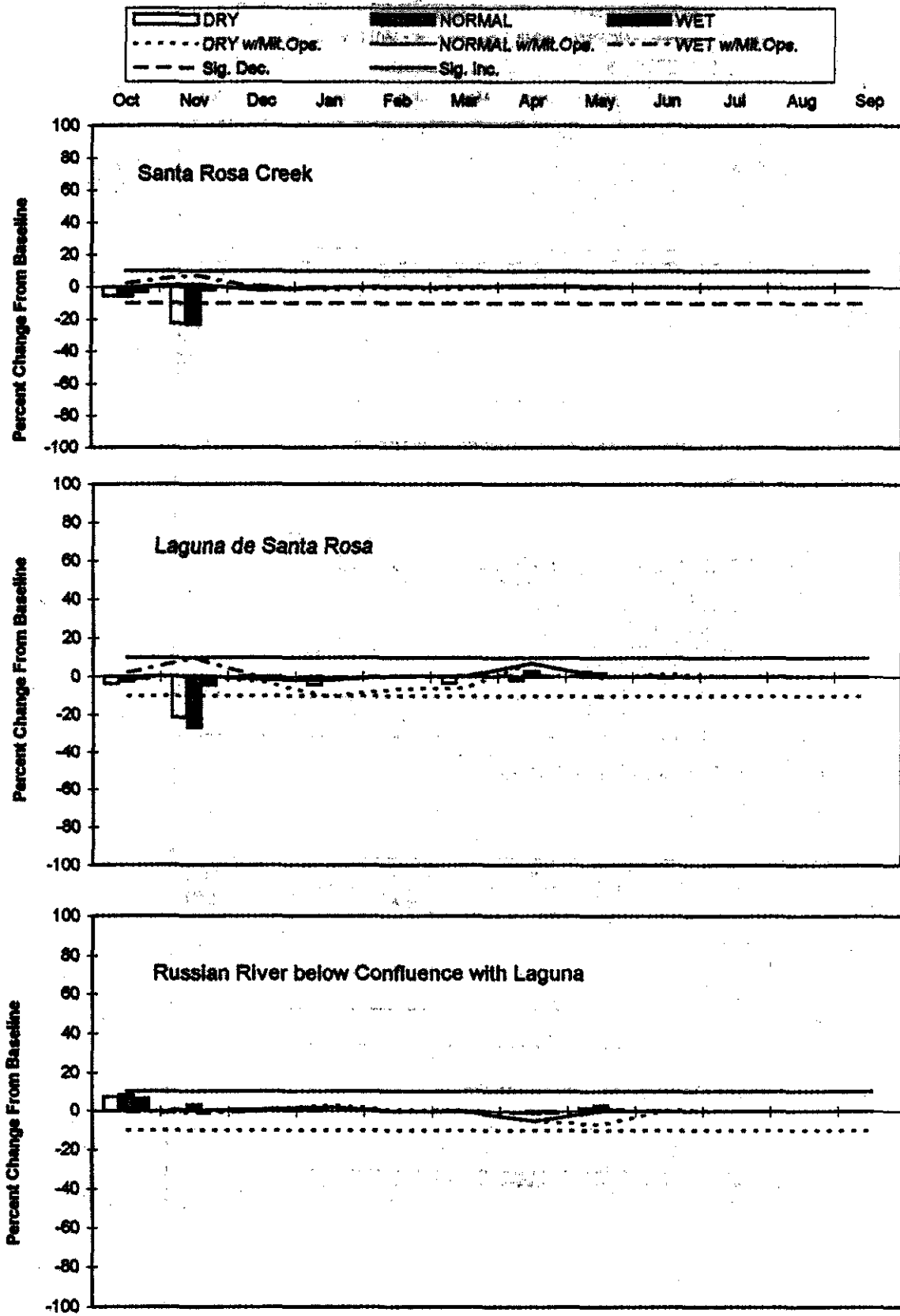


Figure 4-37. Discharge Impacts on Planktonic Algae - 20% Discharge to Russian River
Existing Conditions Baseline - Project and Mitigation Operations



**Figure 4-37. Discharge Impacts on Planktonic Algae - No Project Alternative
Existing Conditions Baseline - Project and Mitigation Operations**



**Figure 4-37. Discharge Impacts on Planktonic Algae - Geysers Alternative
Existing Conditions Baseline - Project and Mitigation Operations**

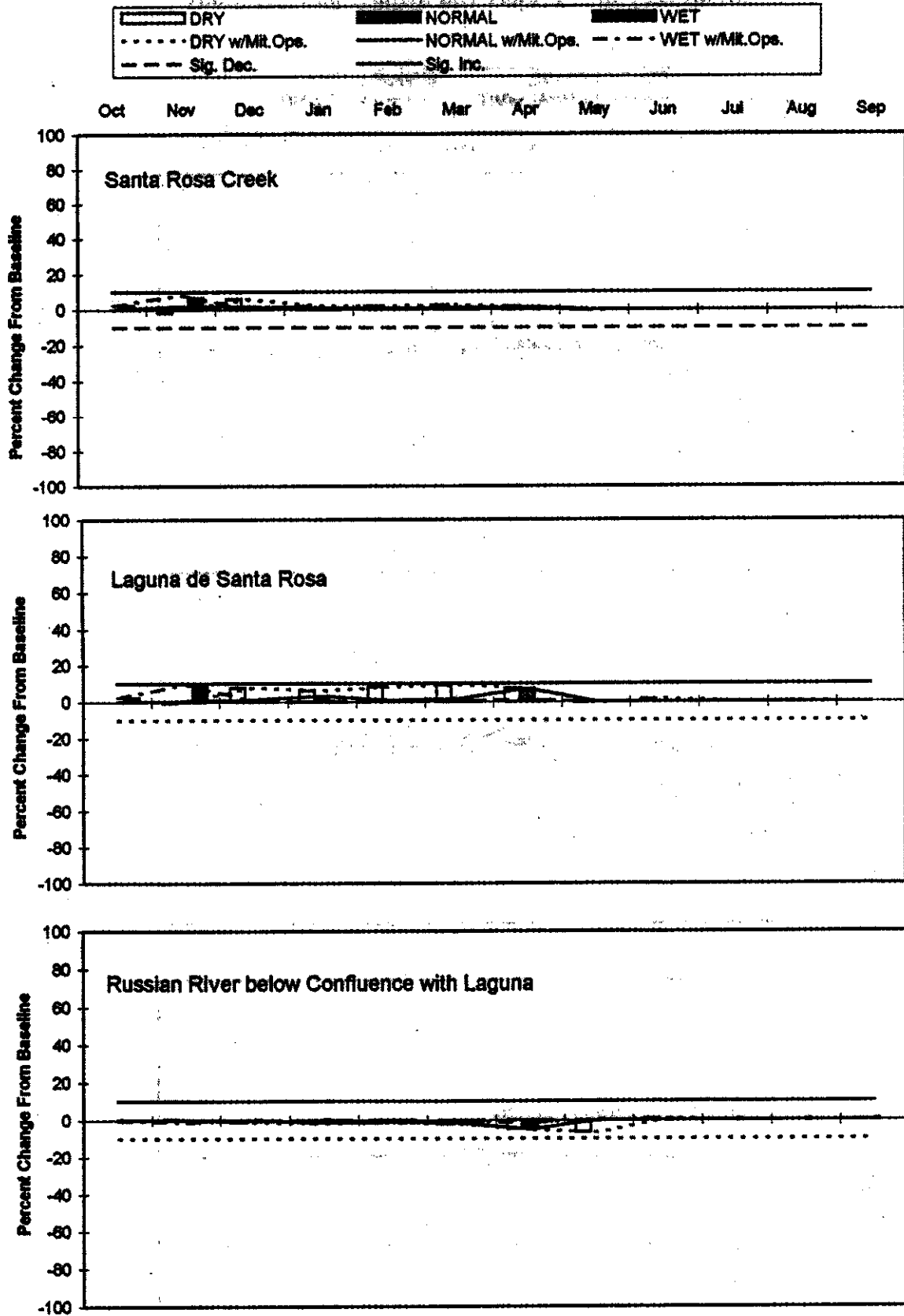


Figure 4-38. Discharge Impacts on Dissolved Oxygen - 20% Discharge to the Laguna de Santa Rosa

Existing Conditions Baseline - Project and Mitigation Operations

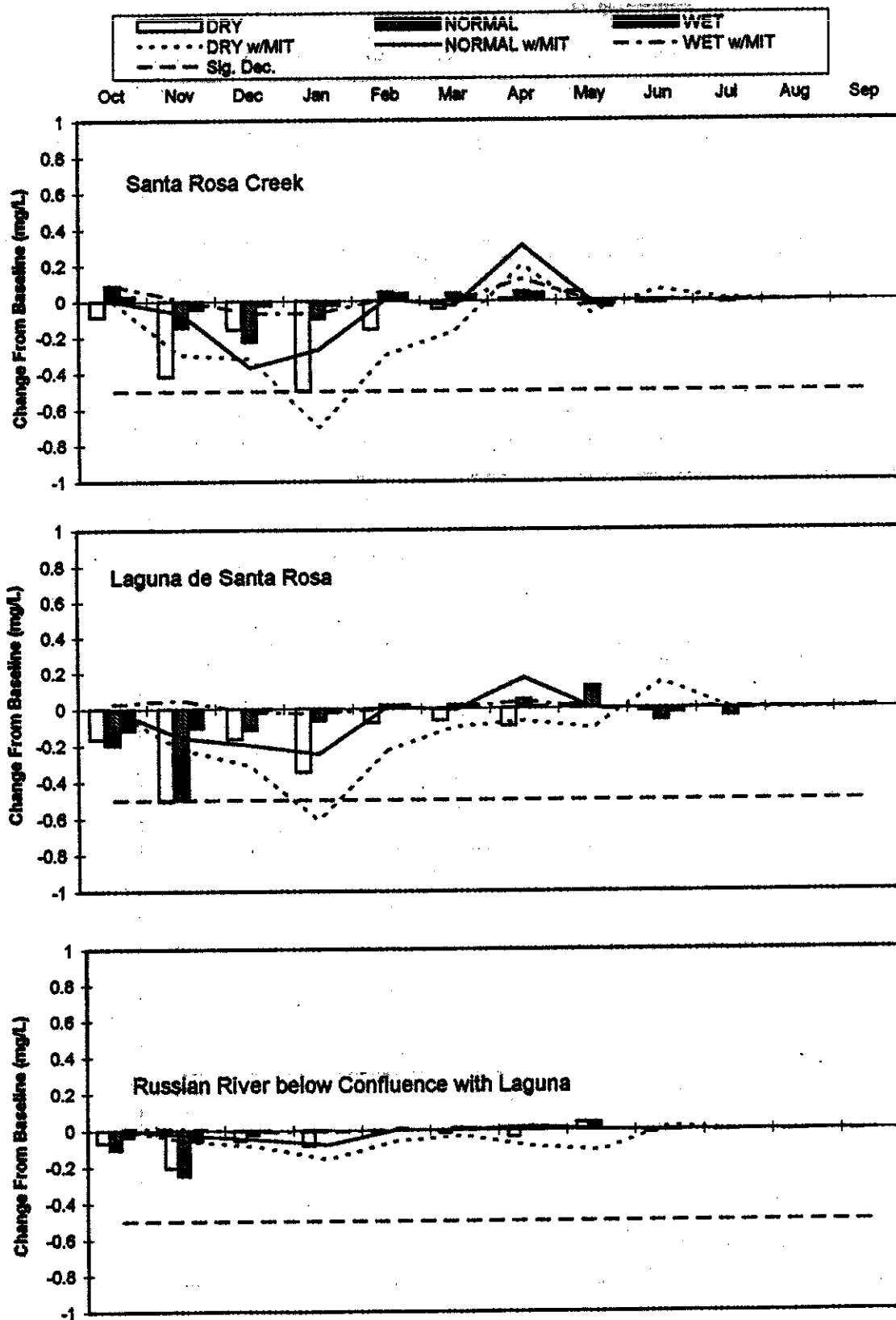
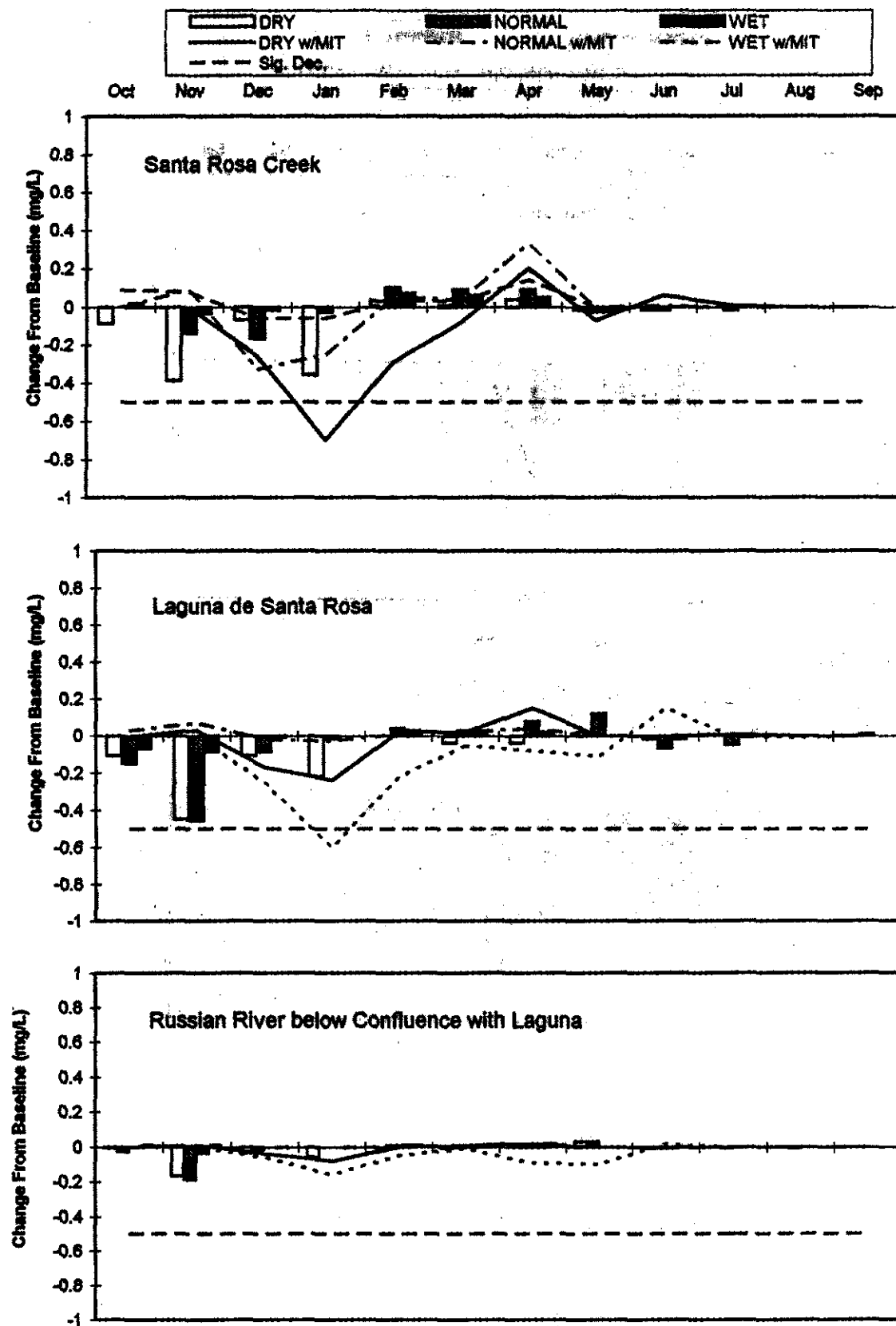
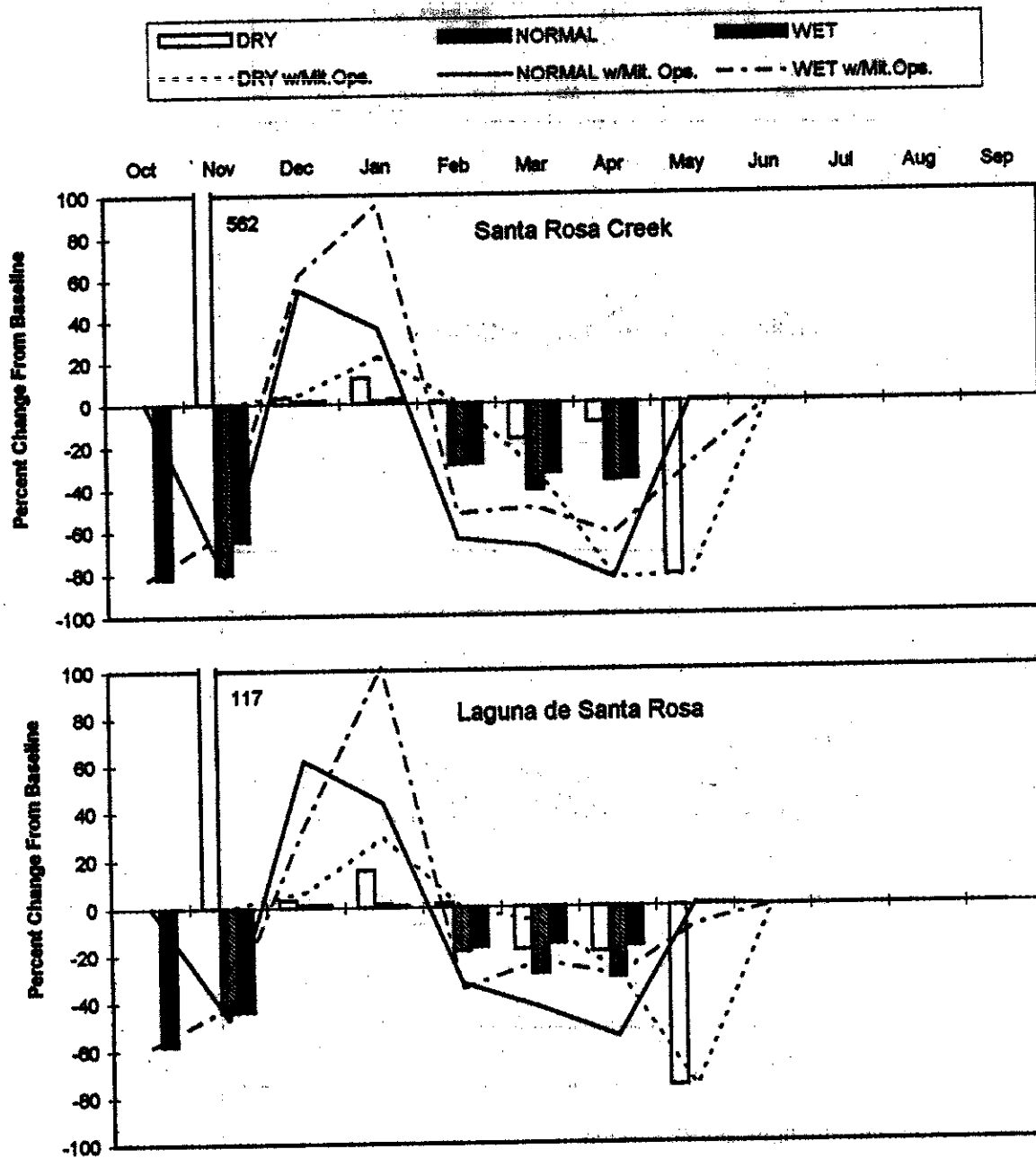


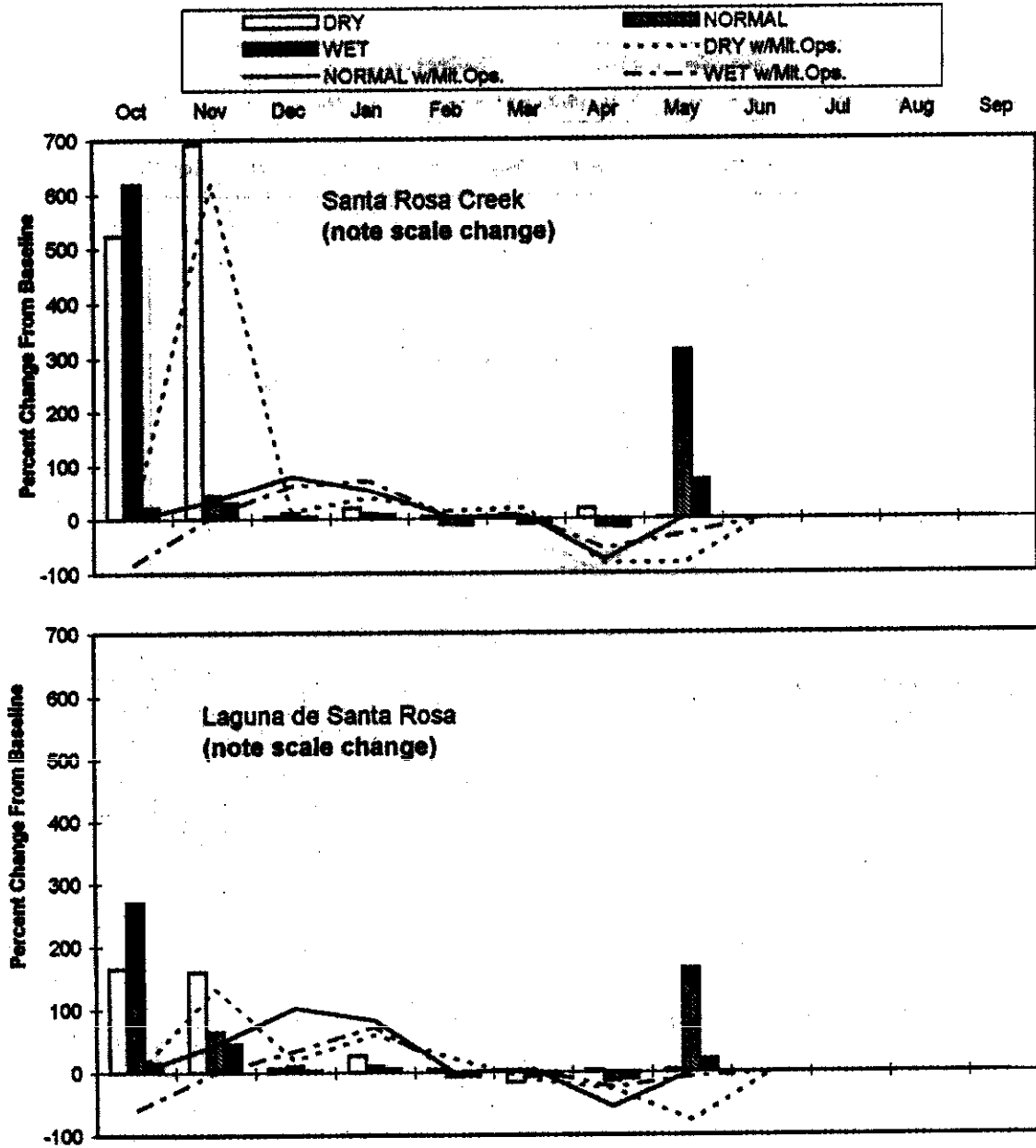
Figure 4-38. Discharge Impacts on Dissolved Oxygen - No Project Alternative
Existing Conditions Baseline - Project and Mitigation Operations



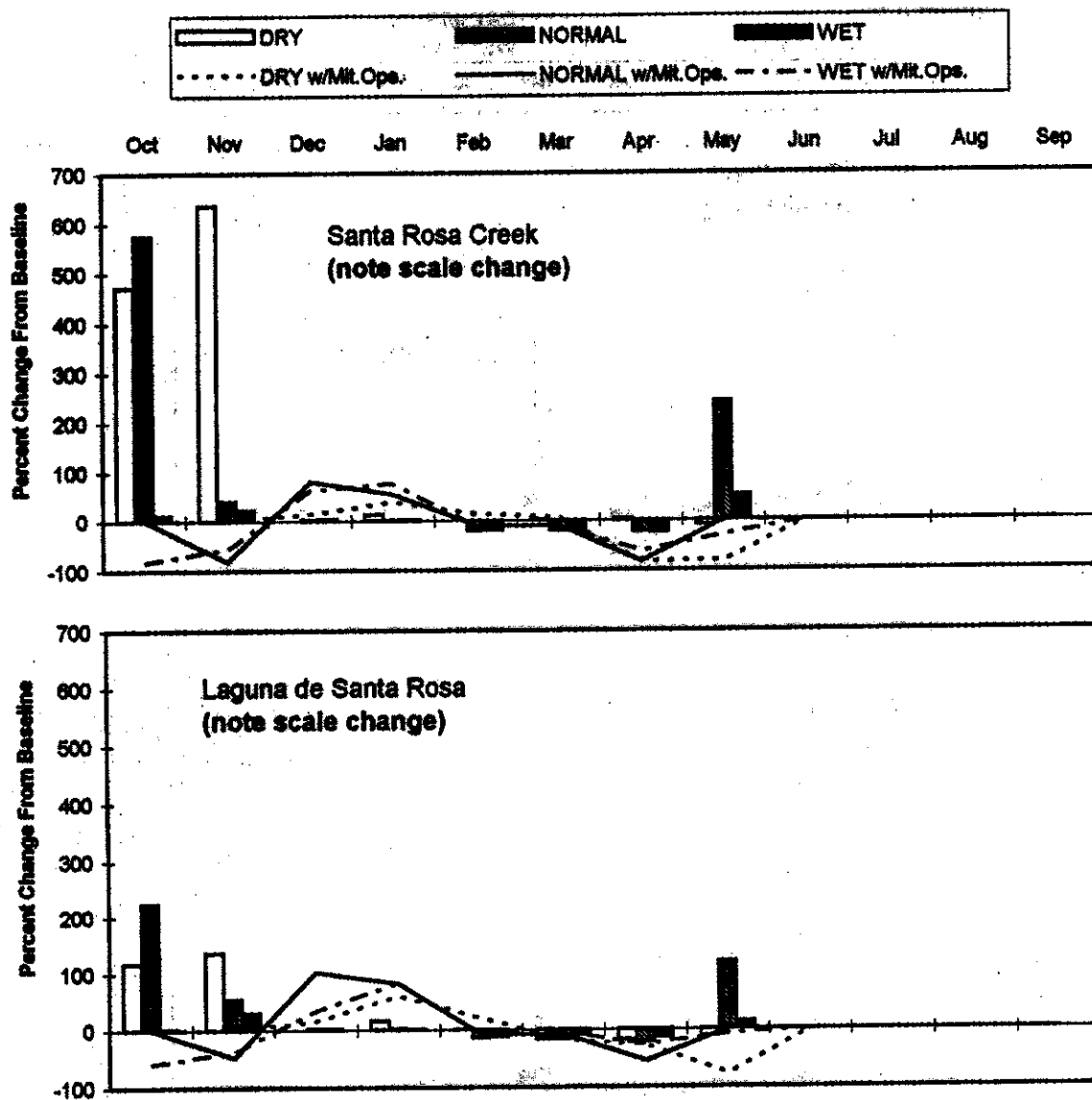
**Figure 4-39. Discharge Impacts on Ammonia - 10% Discharge to Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations**



**Figure 4-39. Discharge Impacts on Ammonia - 20% Discharge to the Laguna de Santa Rosa
Existing Conditions Baseline - Project and Mitigation Operations**



**Figure 4-39. Discharge Impacts on Ammonia - No Project Alternative
Existing Conditions Baseline - Project and Mitigation Operations**



**Figure 4-39. Discharge Impacts on Ammonia - Geysers Alternative
Existing Conditions Baseline - Project and Mitigation Operations**

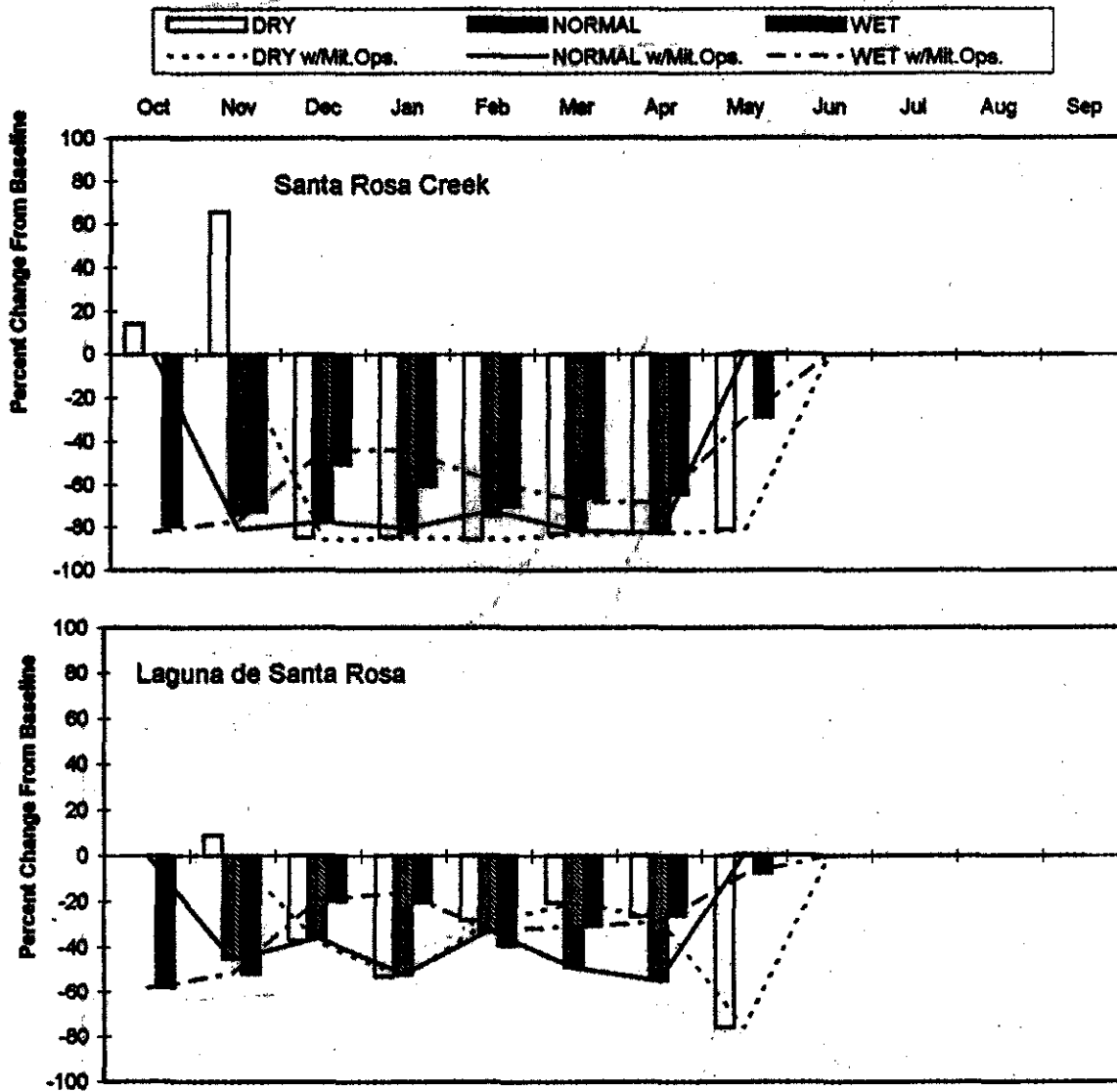


Figure 4-40. Distribution of Daily Average Reclaimed Water Concentration During the Discharge Season In Santa Rosa Creek in a Very Dry Year (1977) With Contingency
Discharge Under Project and Mitigation Operations

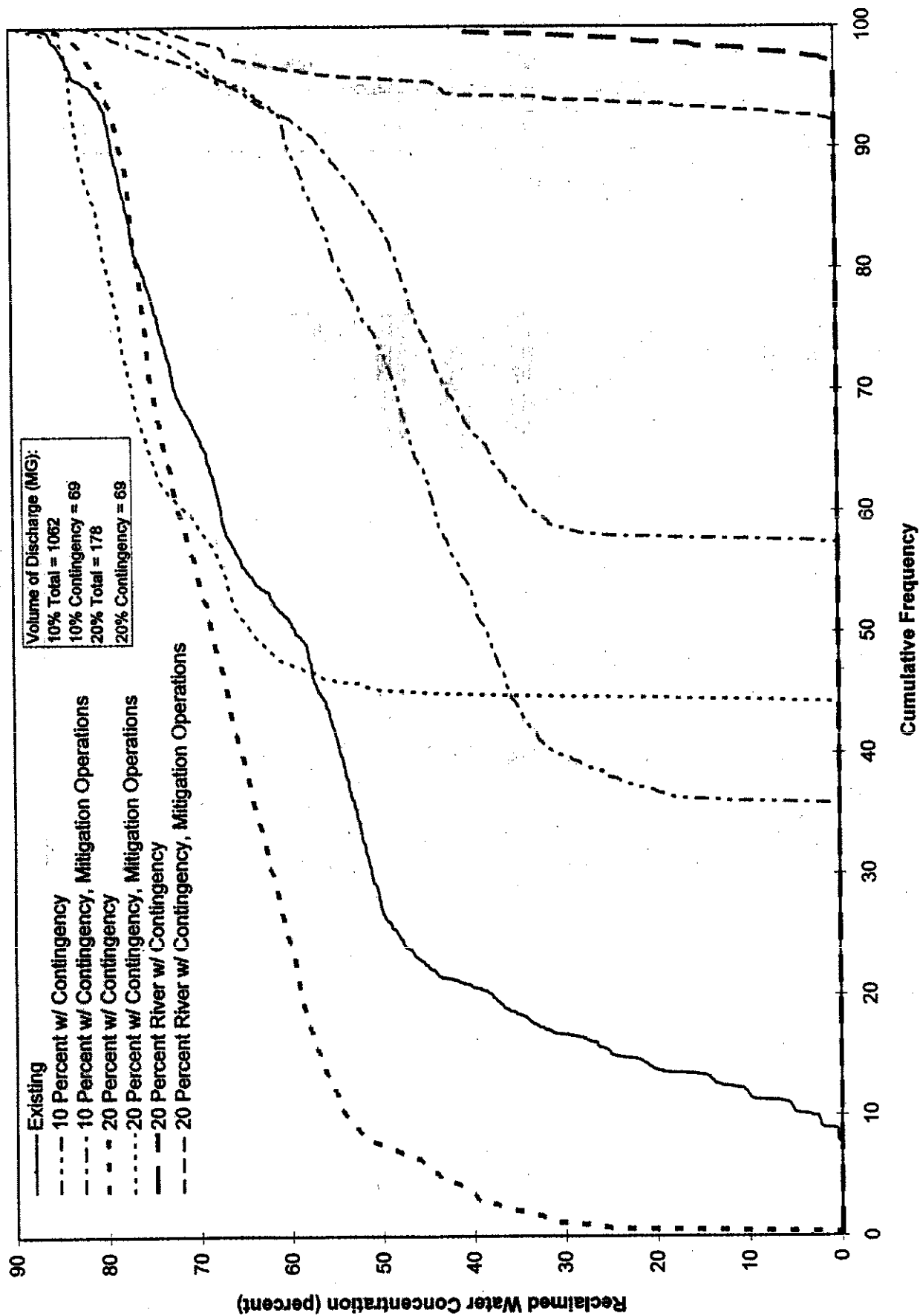


Figure 4-41. Distribution of Daily Average Reclaimed Water Concentration During the Discharge Season in the Laguna at River Road in a Very Dry Year (1977) With Contingency
Discharge Under Project and Mitigation Operations

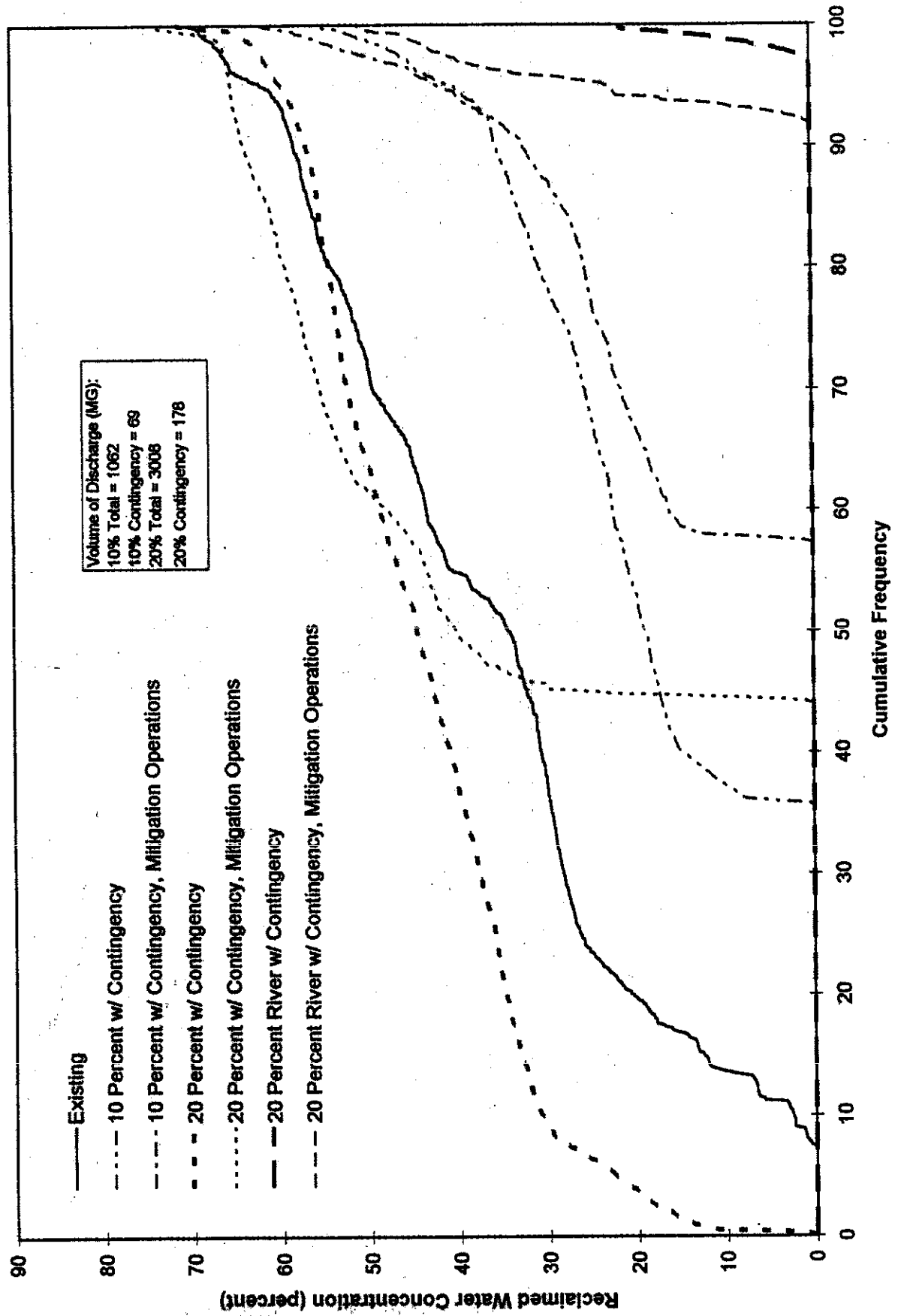


Figure 4-42. Distribution of Daily Average Reclaimed Water Concentration During Discharge Season In the Russian River Below the Laguna in a Very Dry Year (1977) Contingency Discharge Under Project and Mitigation Operations

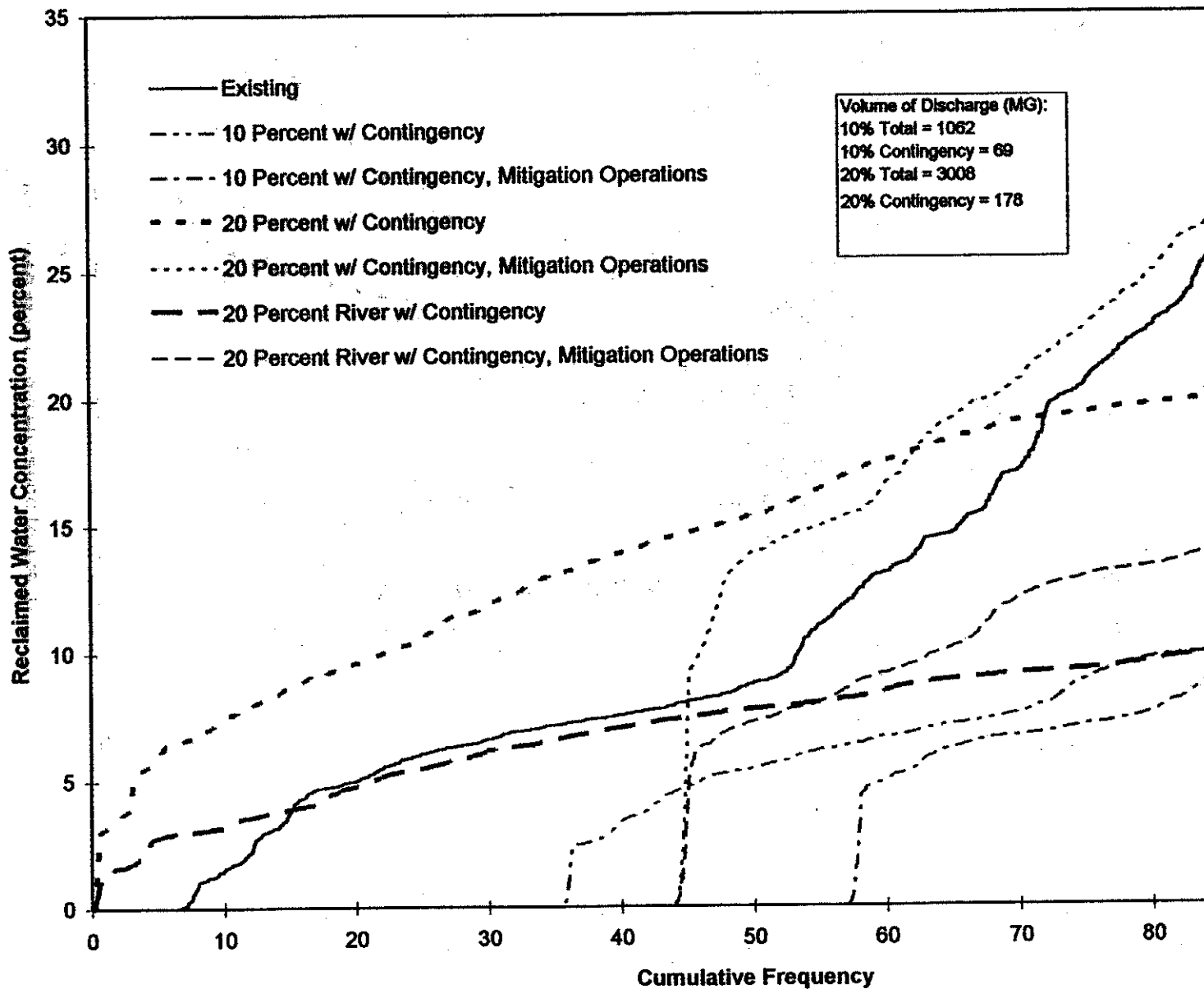


Figure 4-43. Distribution of Daily Average Reclaimed Water Concentration During the Discharge Season in the Russian River Above the Laguna in a Very Dry Year (1977) With Contingency Discharge Under Project and Mitigation Operations

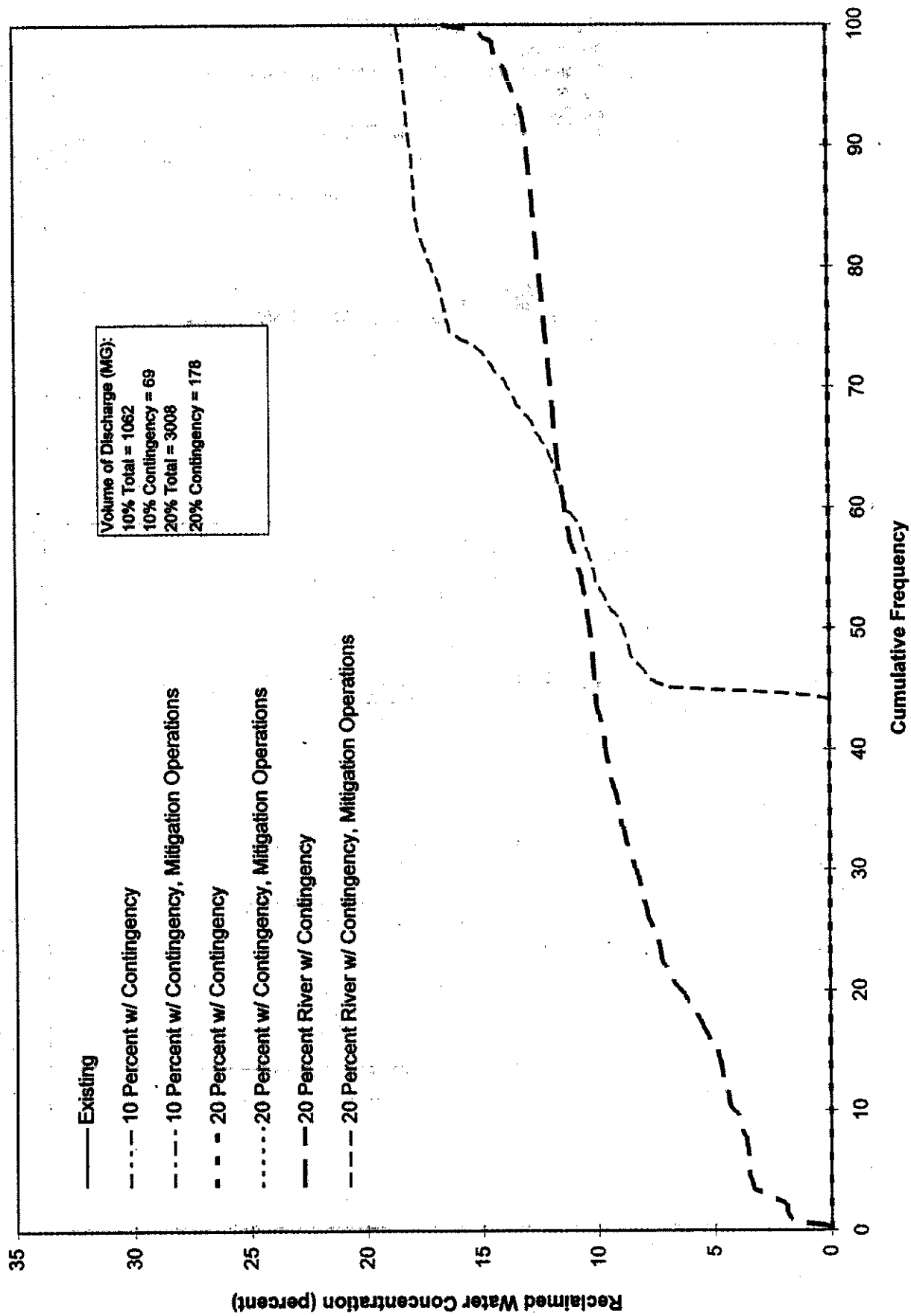


Figure 4-44. Contingency Discharge Impacts on Benthic Algae - 10% Discharge Component

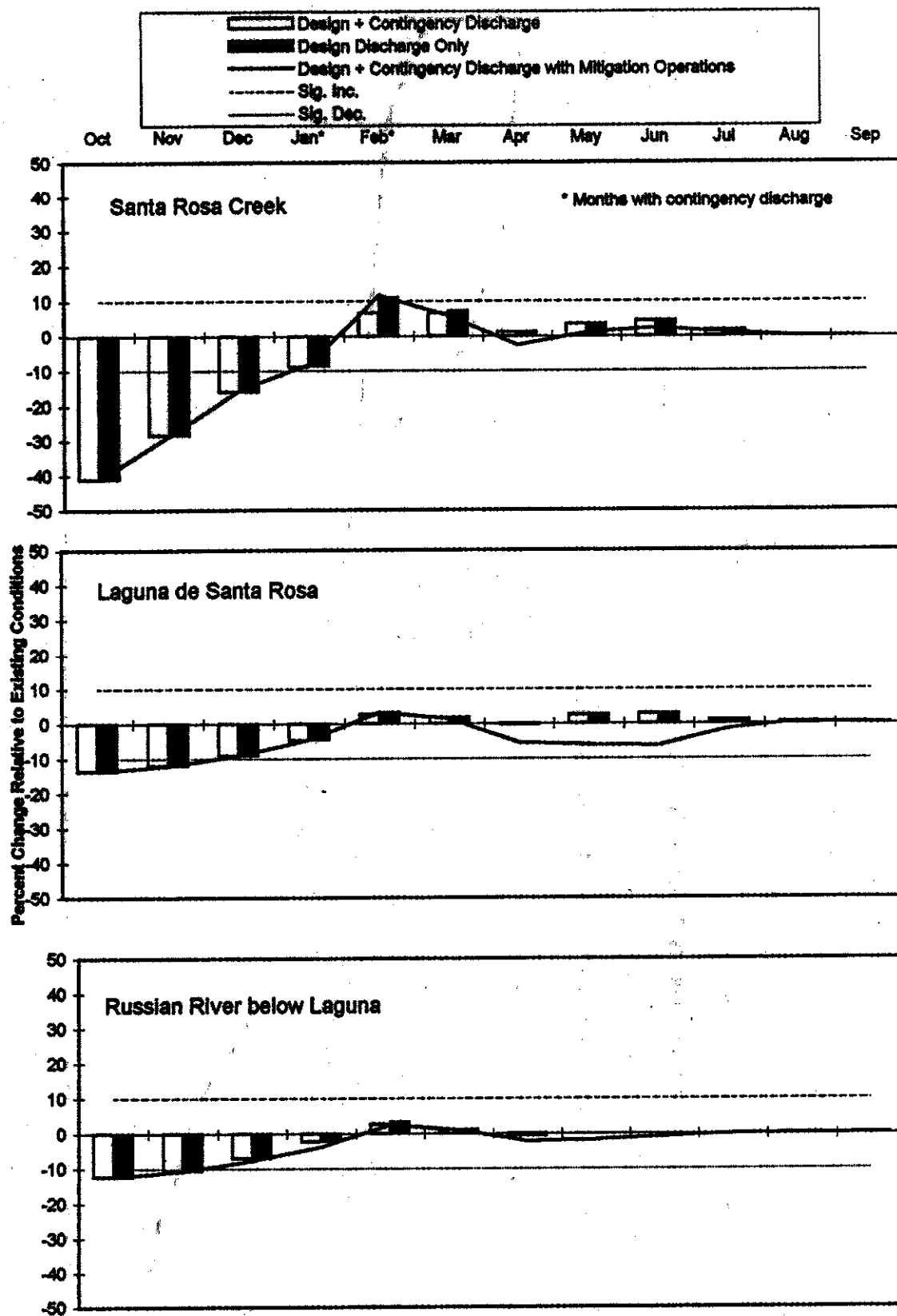


Figure 4-45. Contingency Discharge Impacts on Benthic Algae - 20% Discharge Component

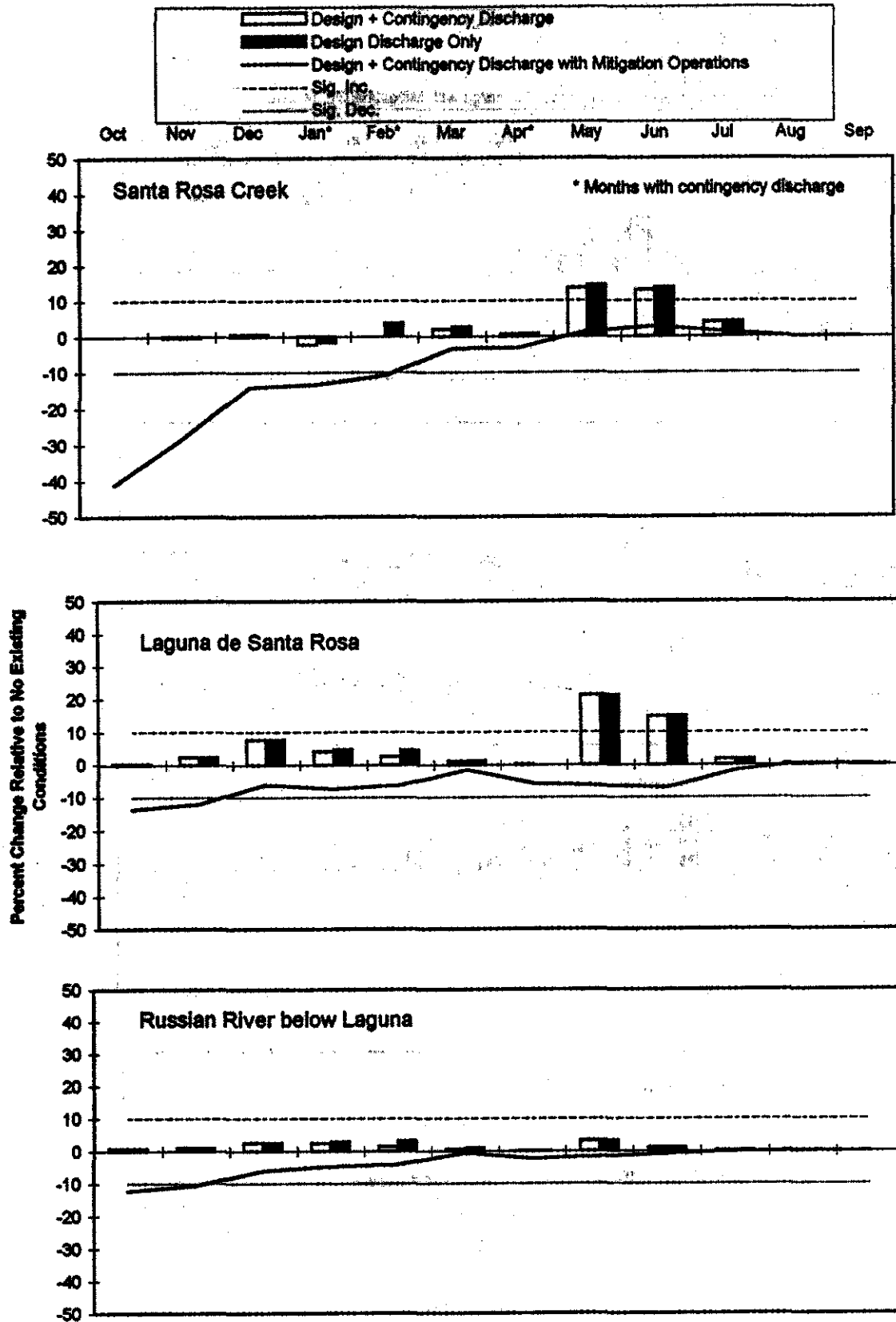


Figure 4-46. Contingency Discharge Impacts on Benthic Algae - 20% Russian River Discharge Component

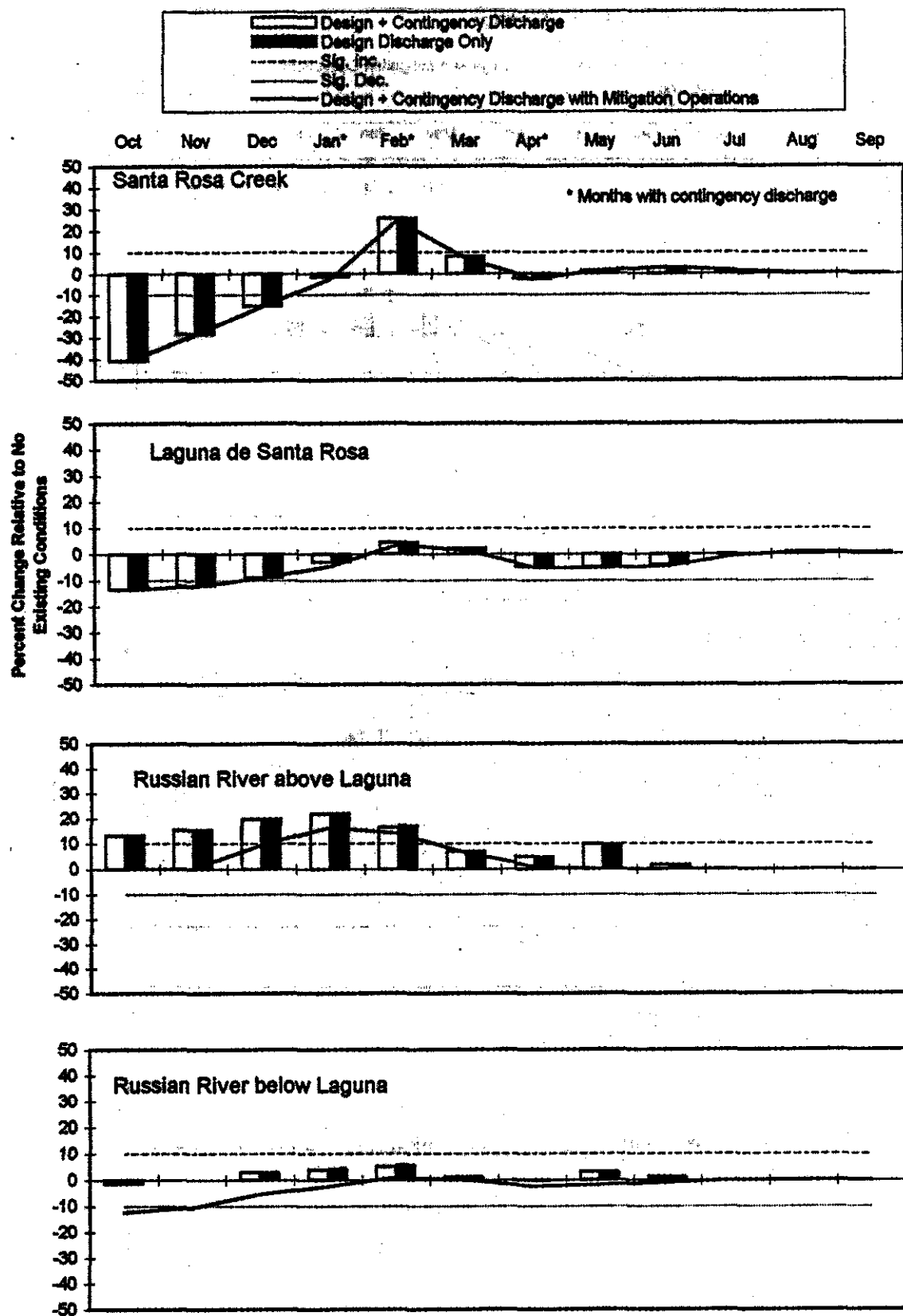


Figure 4-47. Contingency Discharge Impacts on Planktonic Algae - 10% Discharge Component

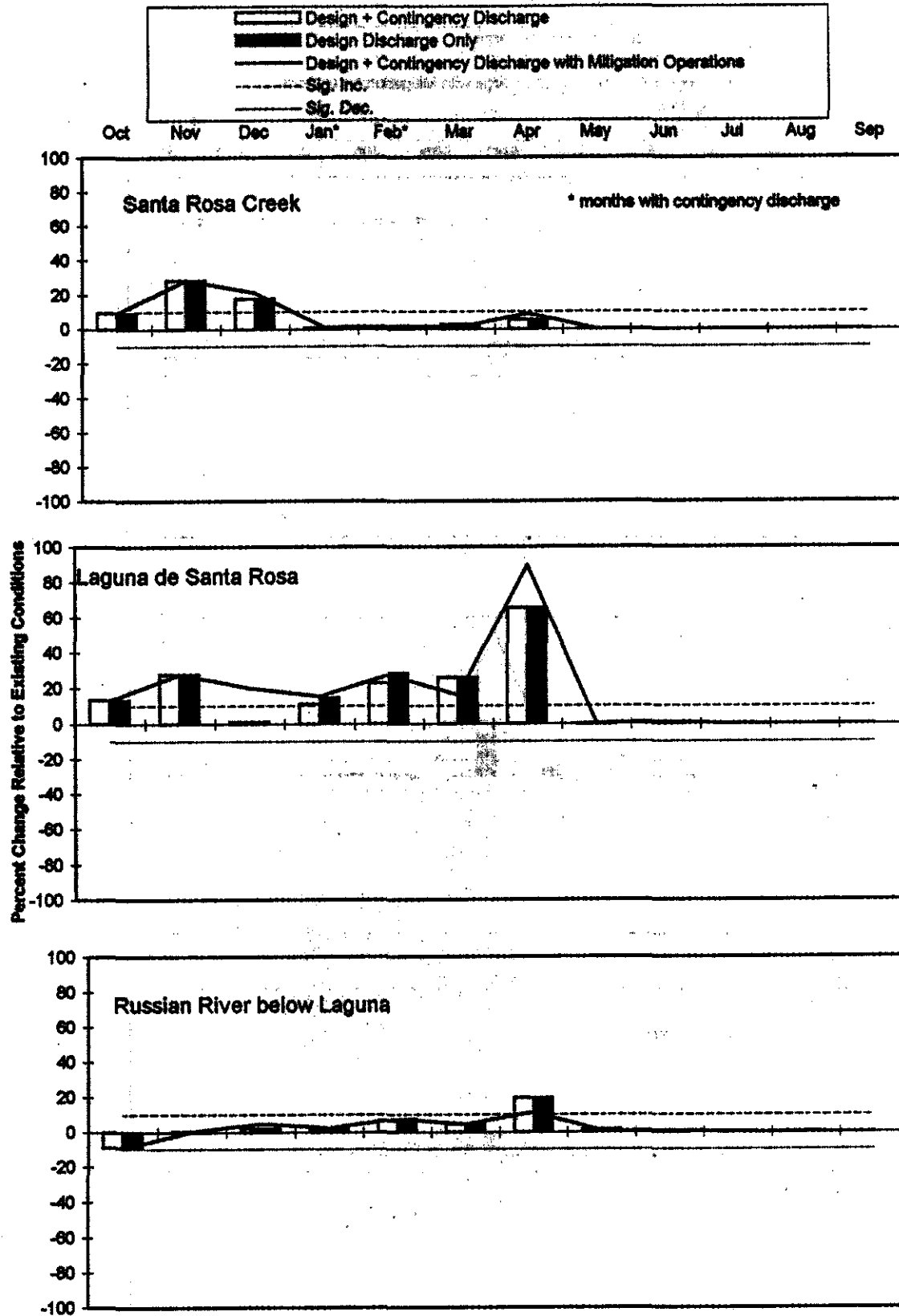


Figure 4-48. Contingency Discharge Impacts on Planktonic Algae - 20% Discharge Component

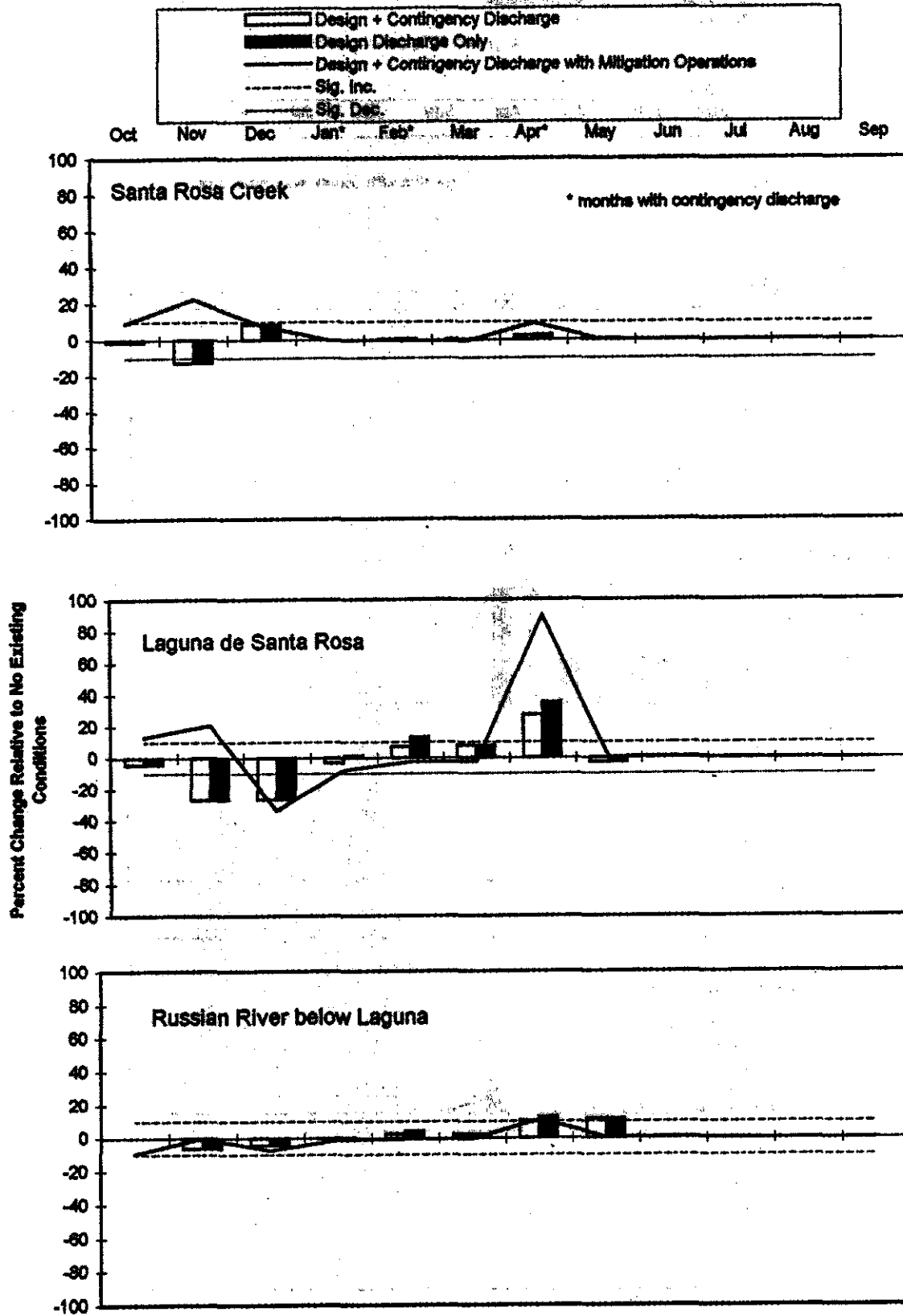


Figure 4-49. Contingency Discharge Impacts on Planktonic Algae - 20% Russian River Discharge Component

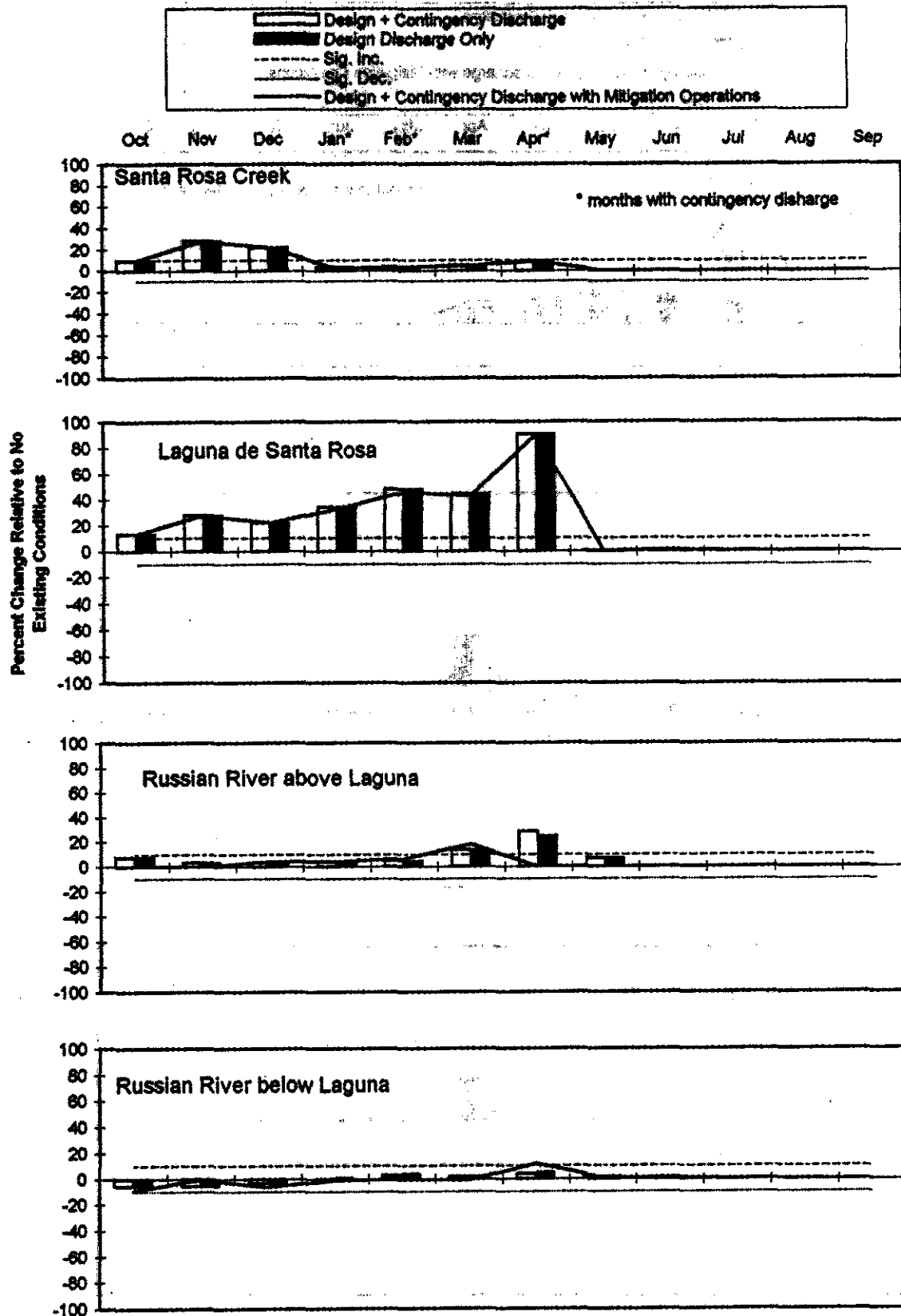


Figure 4-50. Contingency Discharge Impacts on Dissolved Oxygen - 10% Discharge Component

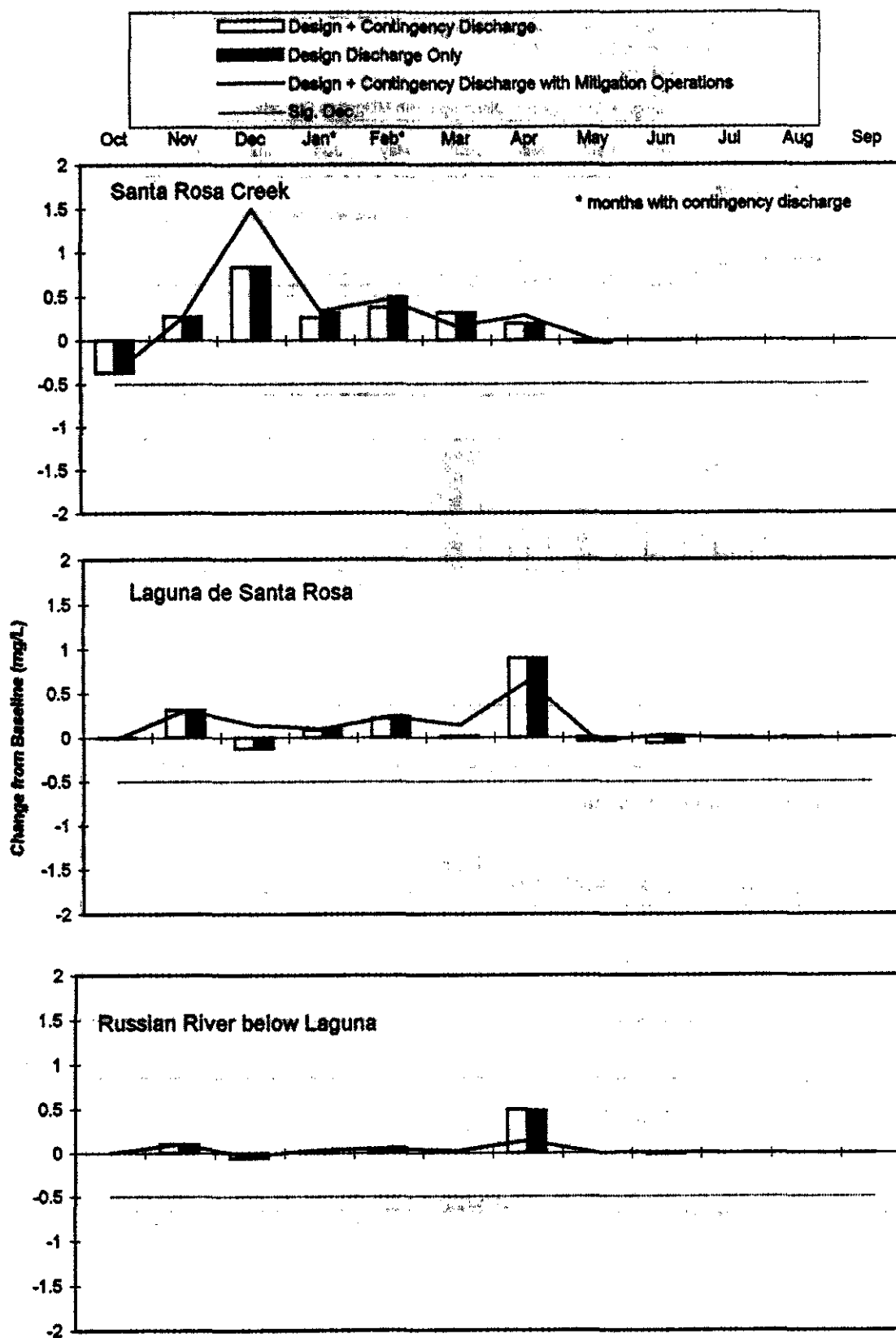


Figure 4-51. Contingency Discharge Impacts on Dissolved Oxygen - 20% Discharge Component

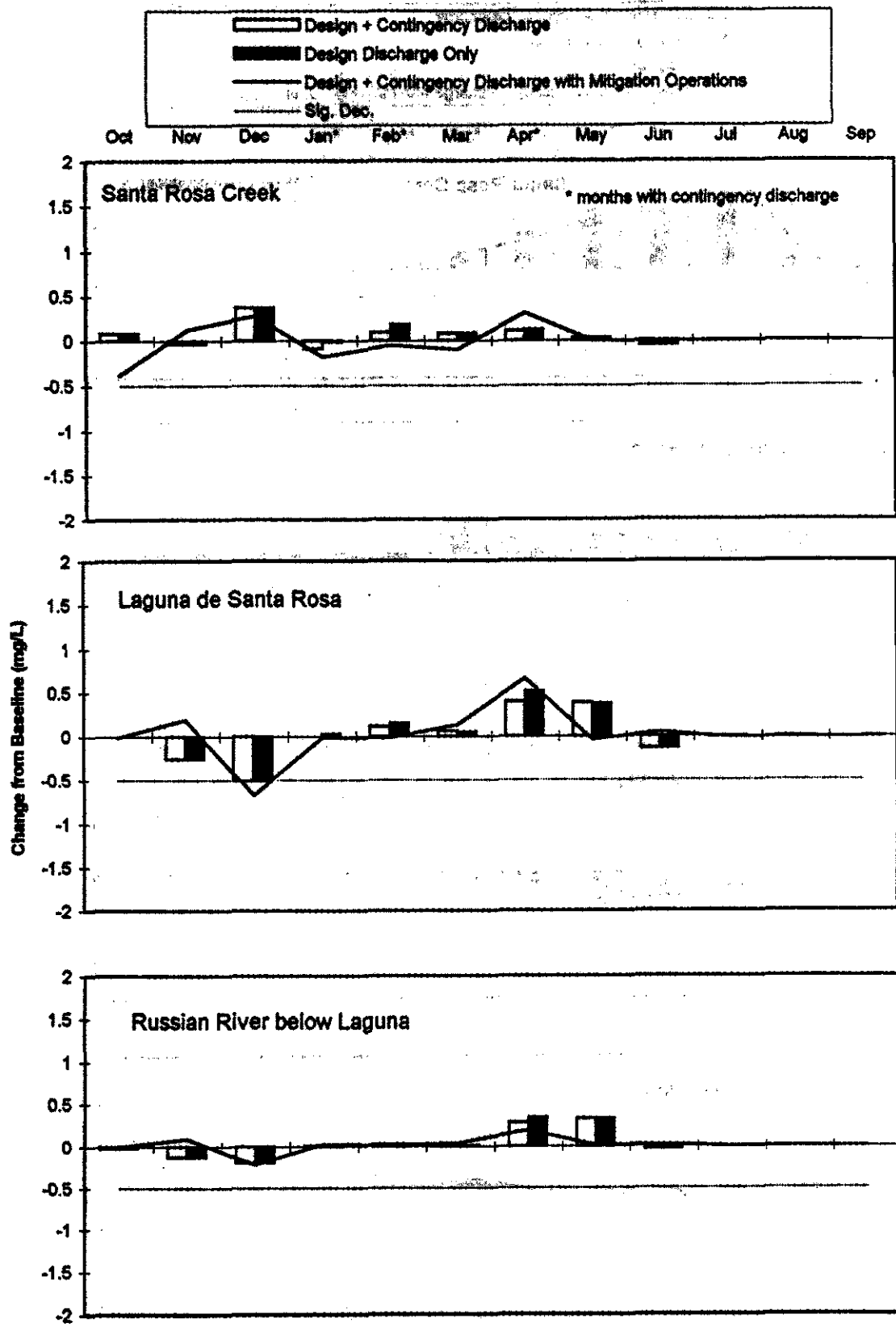


Figure 4-52. Contingency Discharge Impacts on Dissolved Oxygen - 20% Russian River Discharge Component

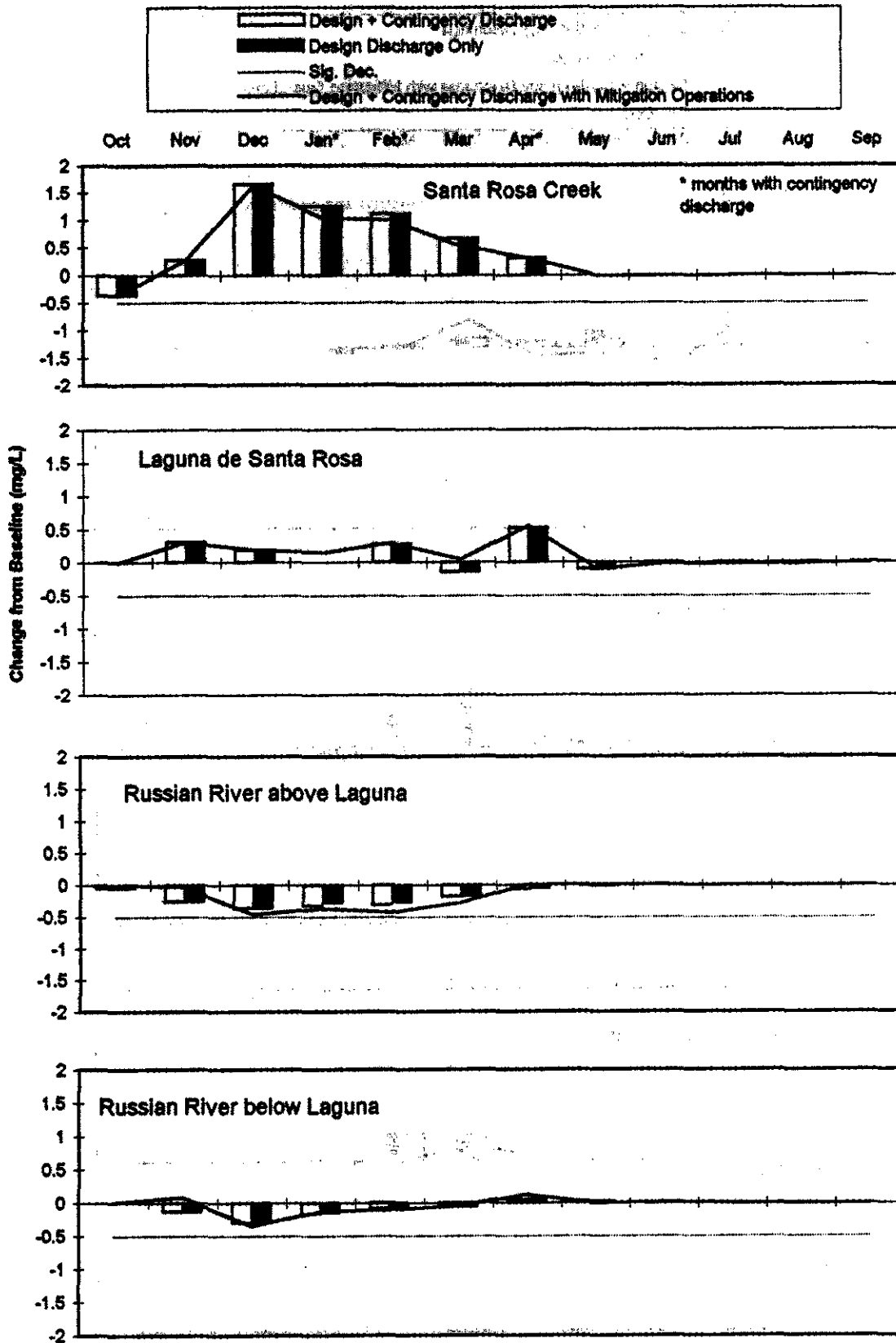


Figure 4-53. Contingency Discharge Impacts on Ammonia - 10% Discharge Component

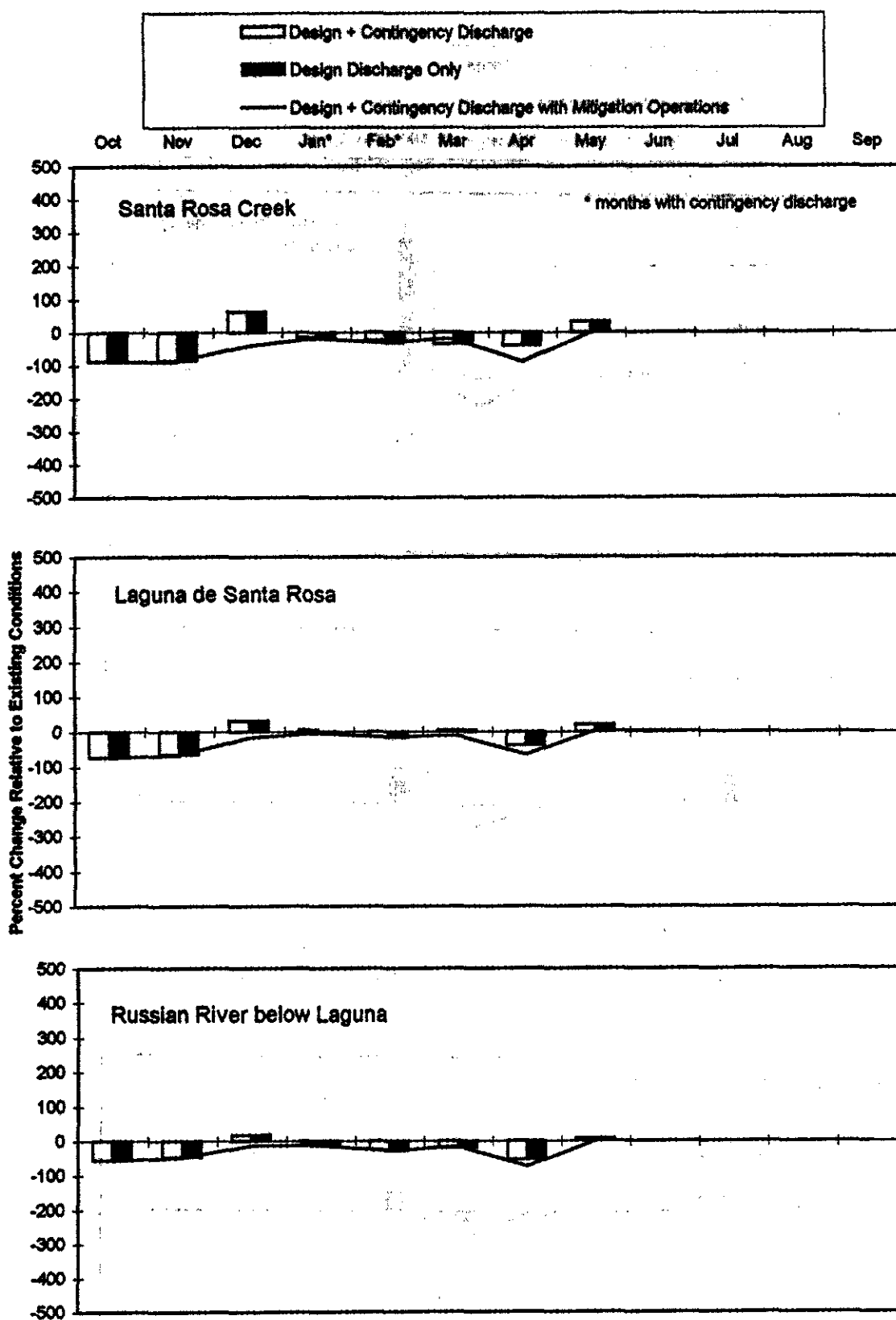


Figure 4-54. Contingency Discharge Impacts on Ammonia - 20% Discharge Component

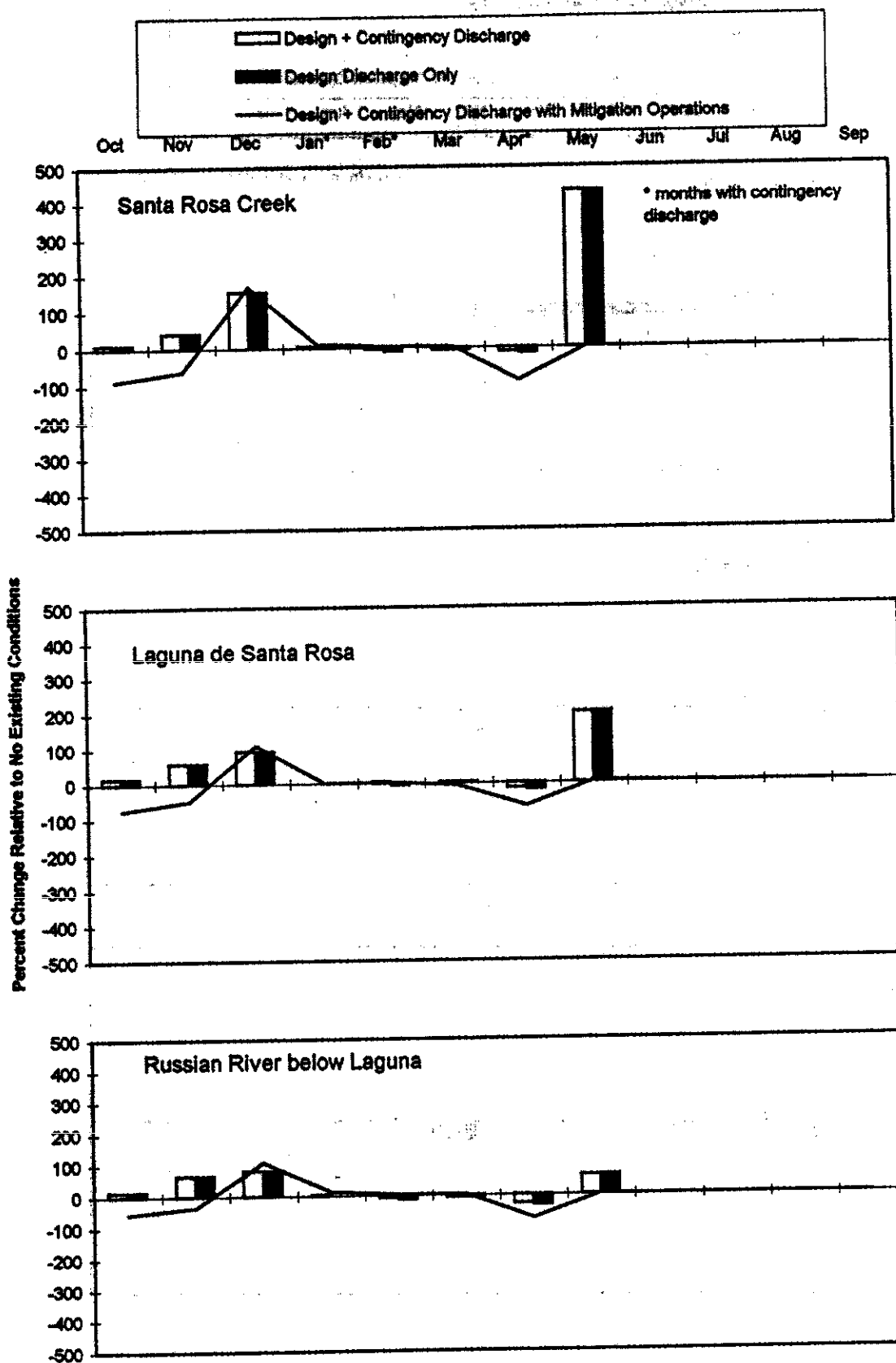


Figure 4-55. Contingency Discharge Impacts on Ammonia - 20% Russian River Discharge Component

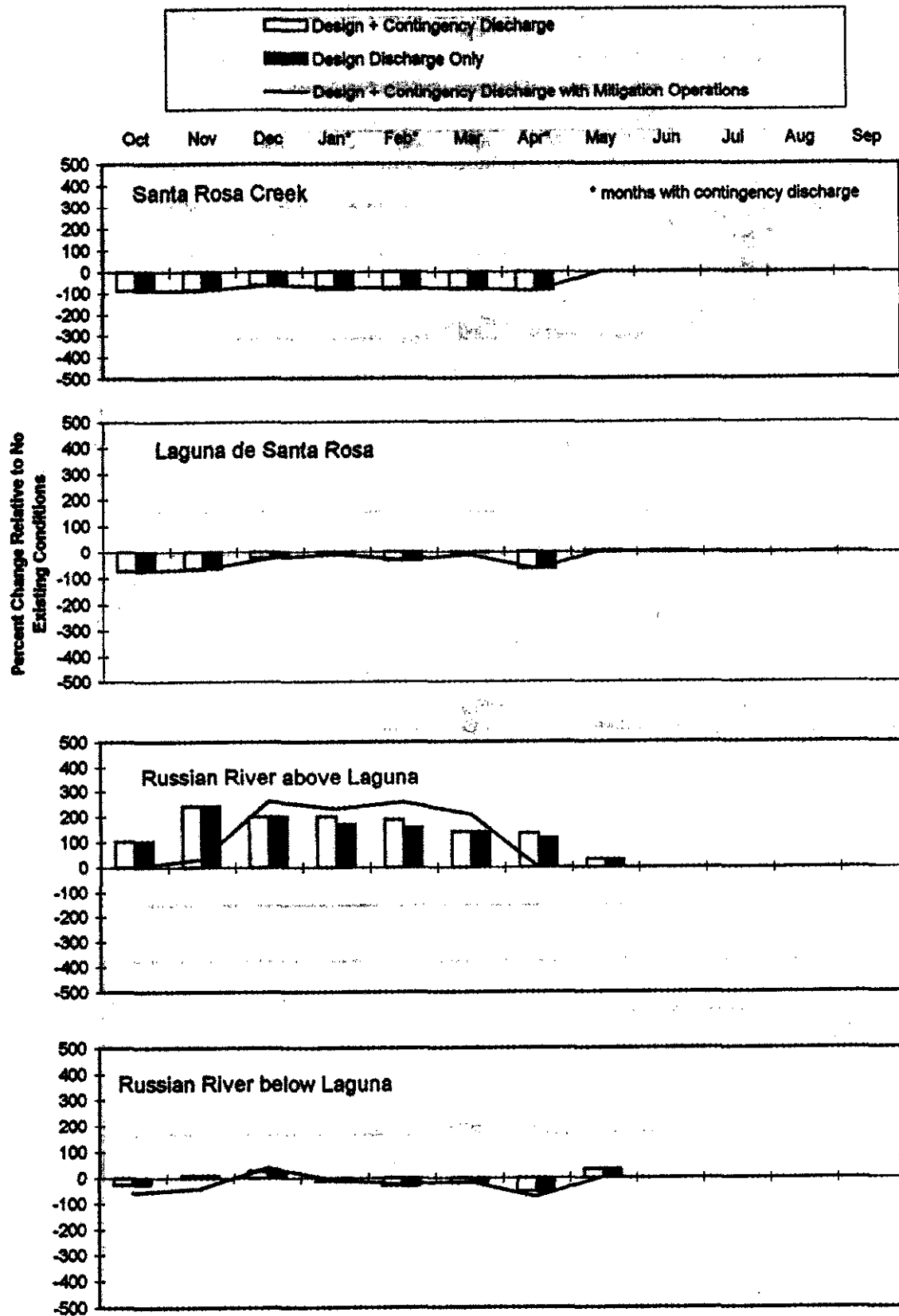


Figure 4-56. Contingency Discharge Impacts on Temperature - 10% Discharge Component

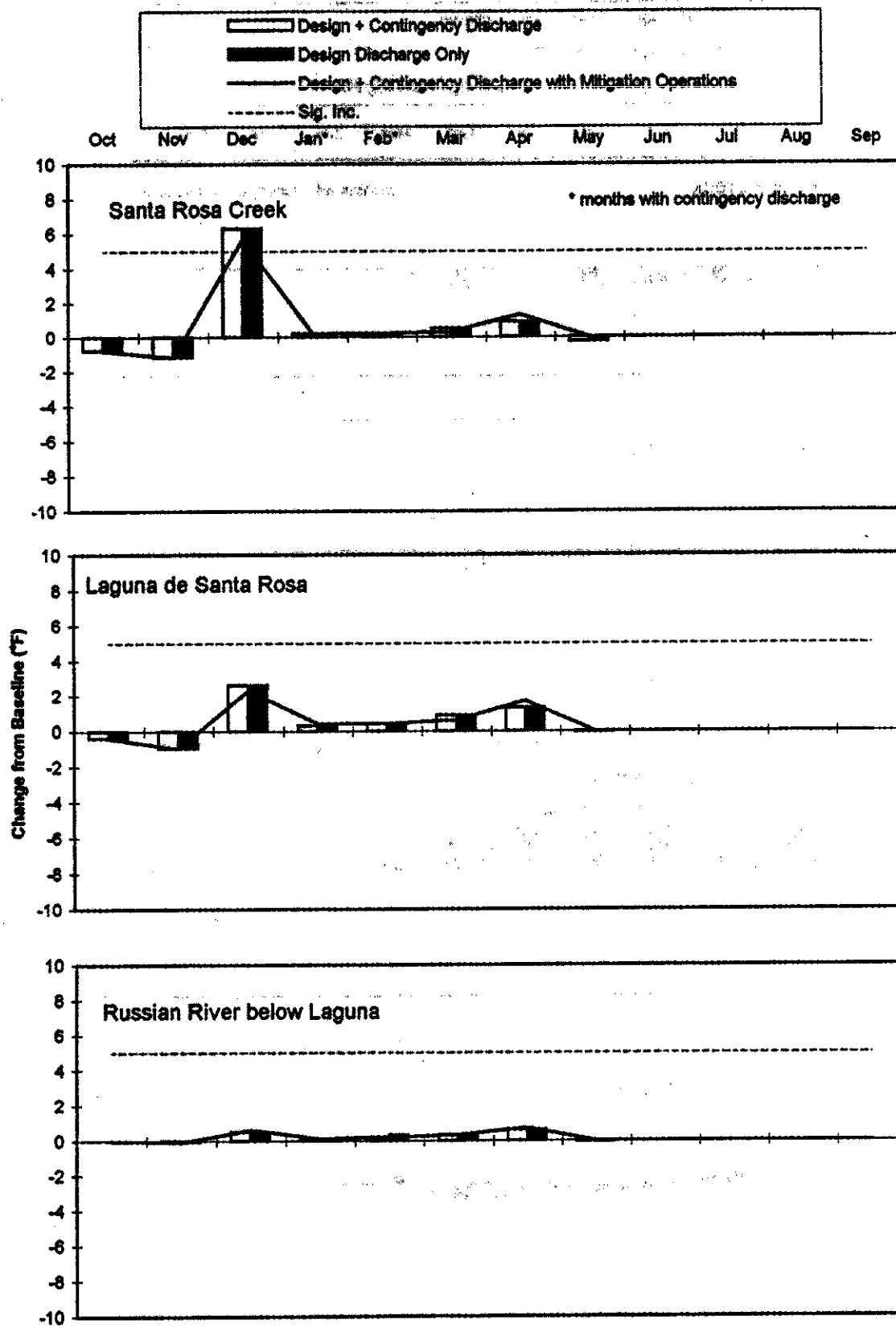


Figure 4-57. Contingency Discharge Impacts on Temperature - 20% Discharge Component

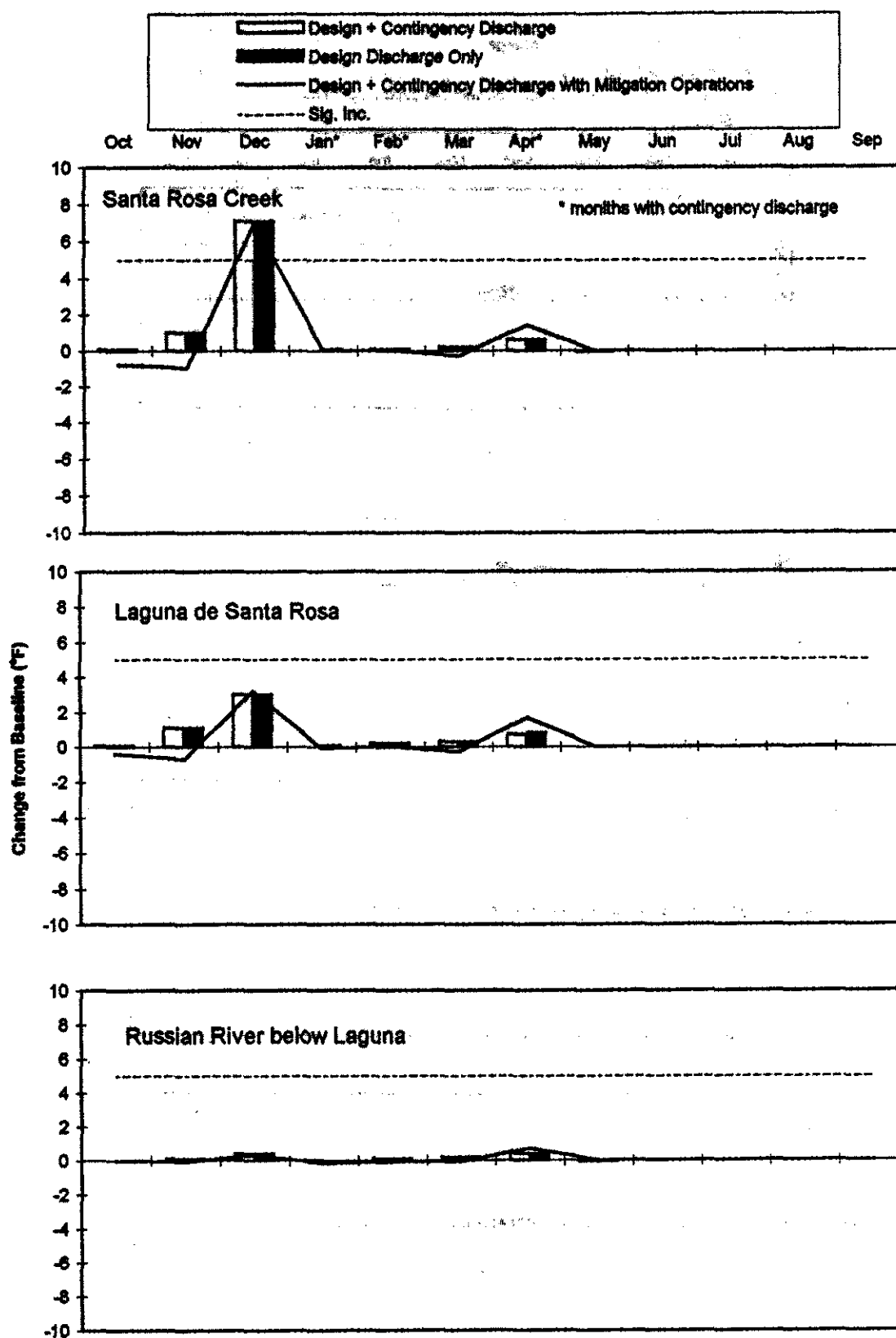


Figure 4-58. Contingency Discharge Impacts on Temperature - 20% Russian River Discharge Component

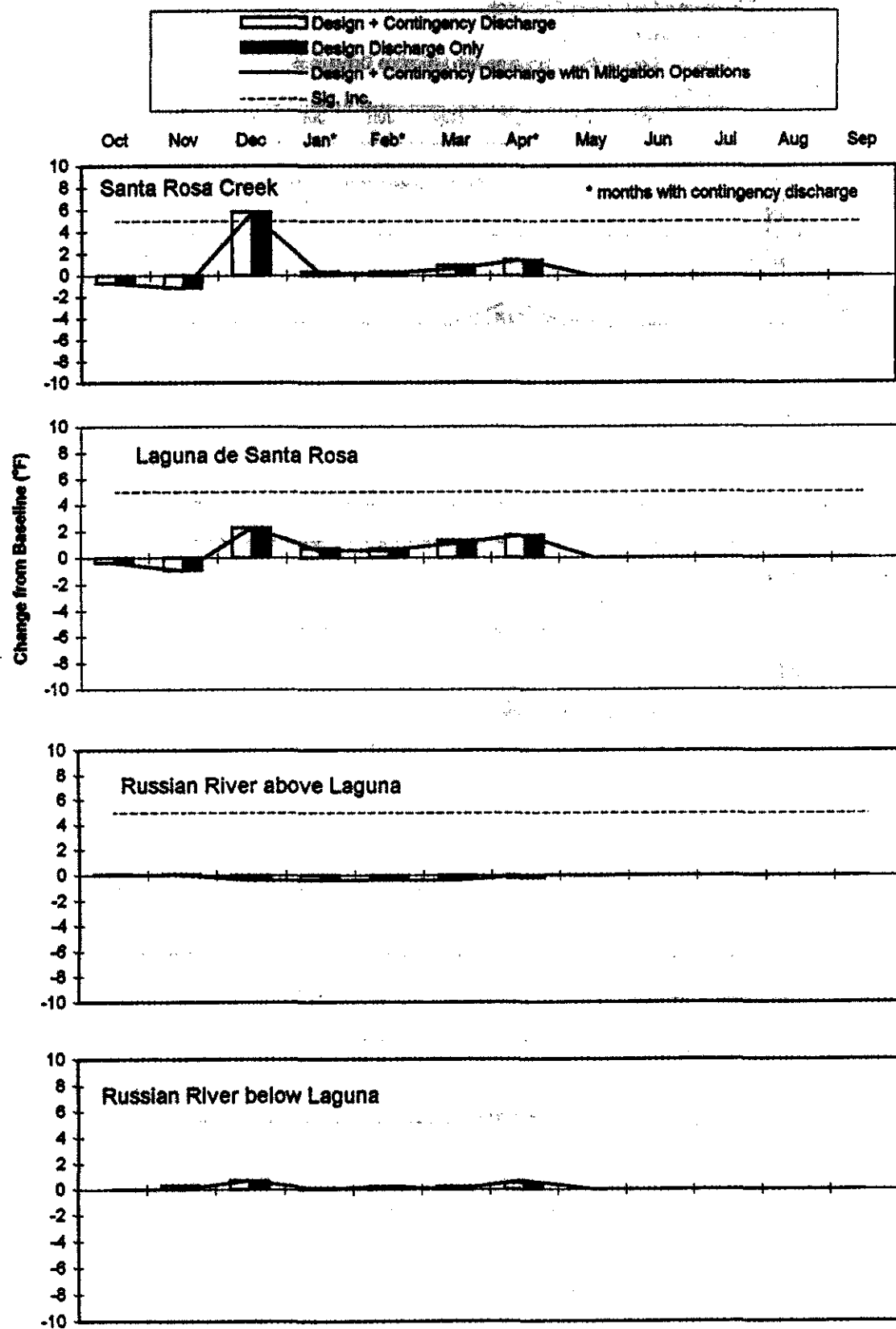


Figure 4-59. Cumulative Discharge Impacts on Benthic Algae - 1% Discharge Component

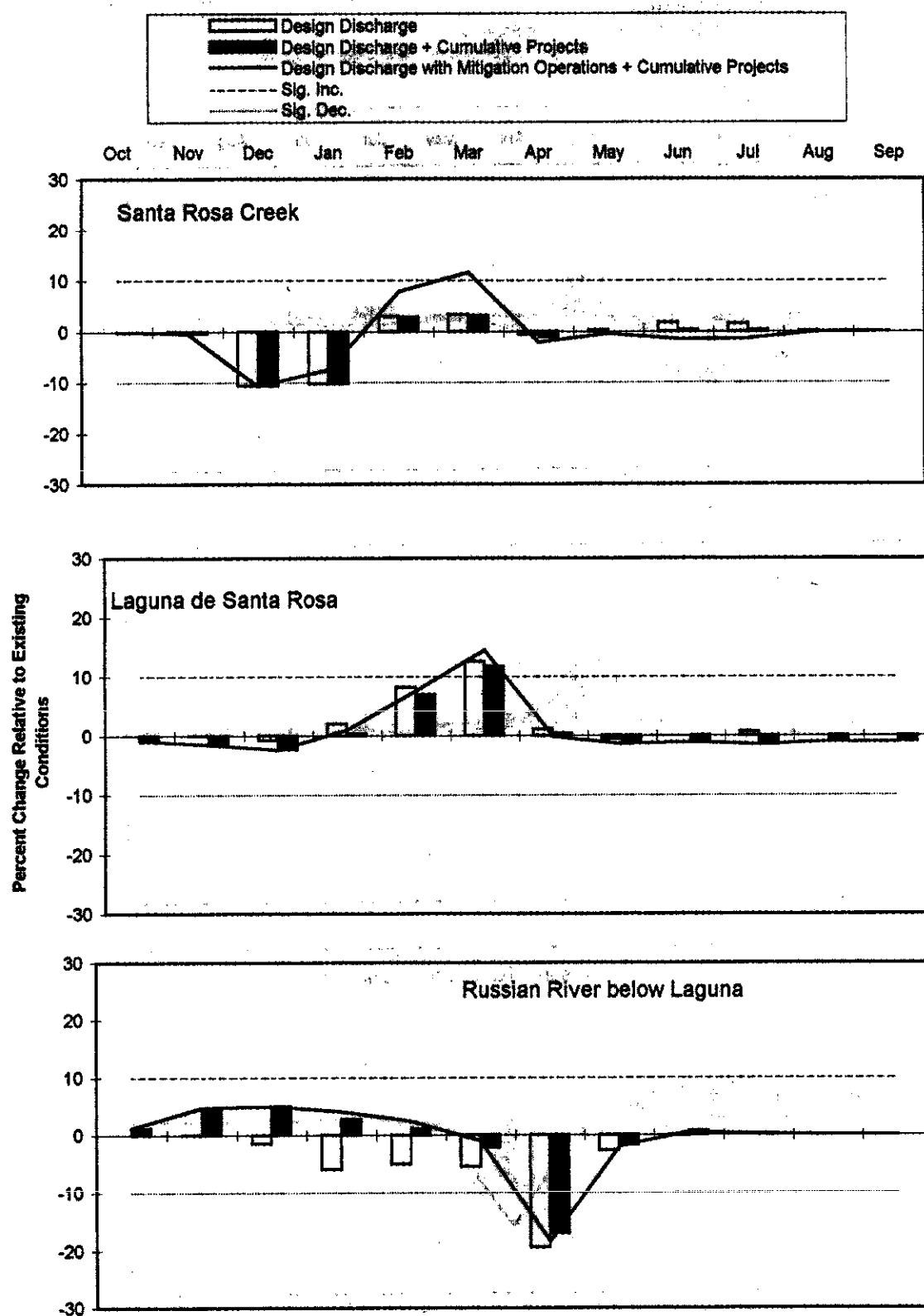


Figure 4-59. Cumulative Discharge Impacts on Benthic Algae - 5% Discharge Component

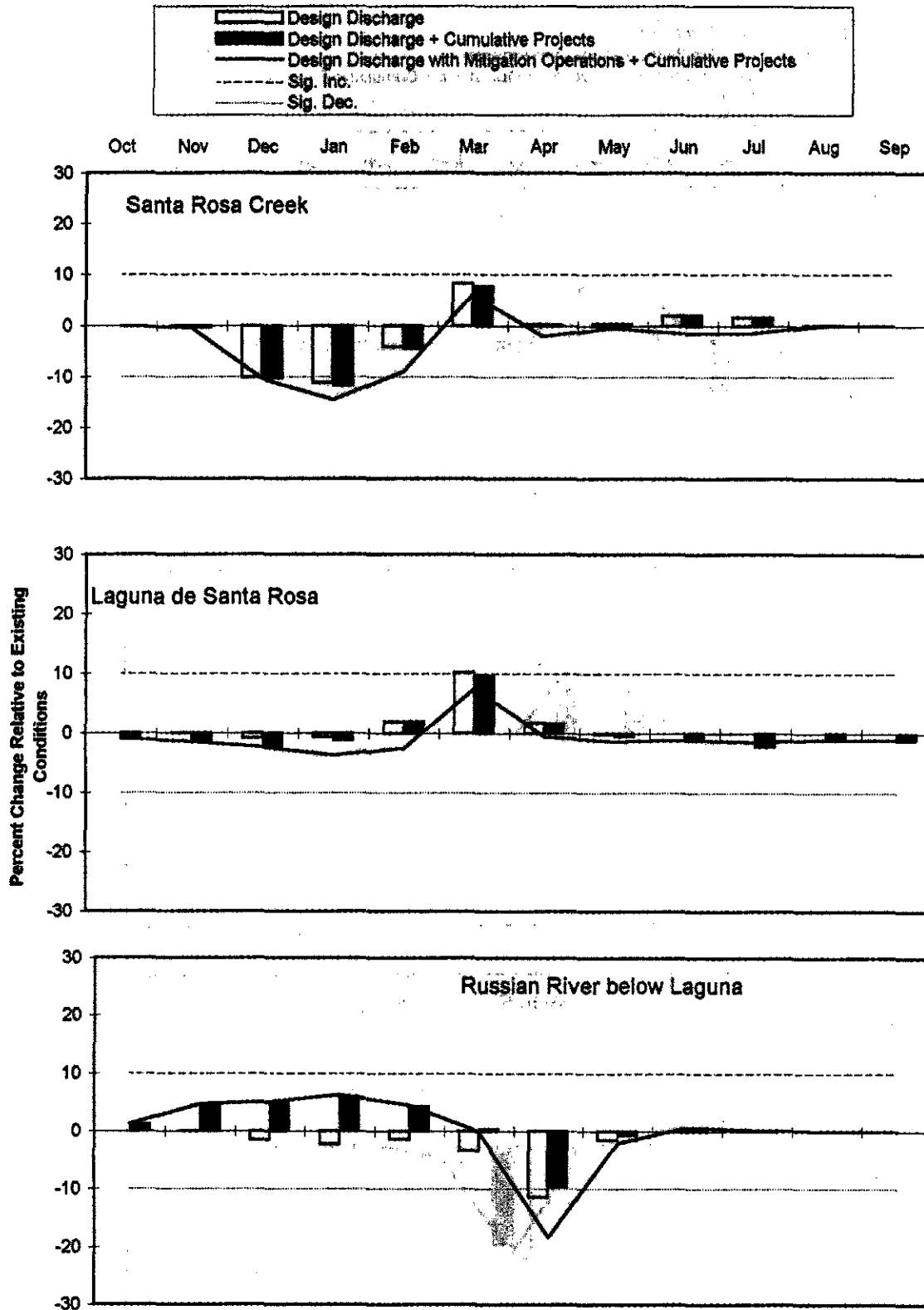


Figure 4-59. Cumulative Discharge Impacts on Benthic Algae - 10% Discharge Component

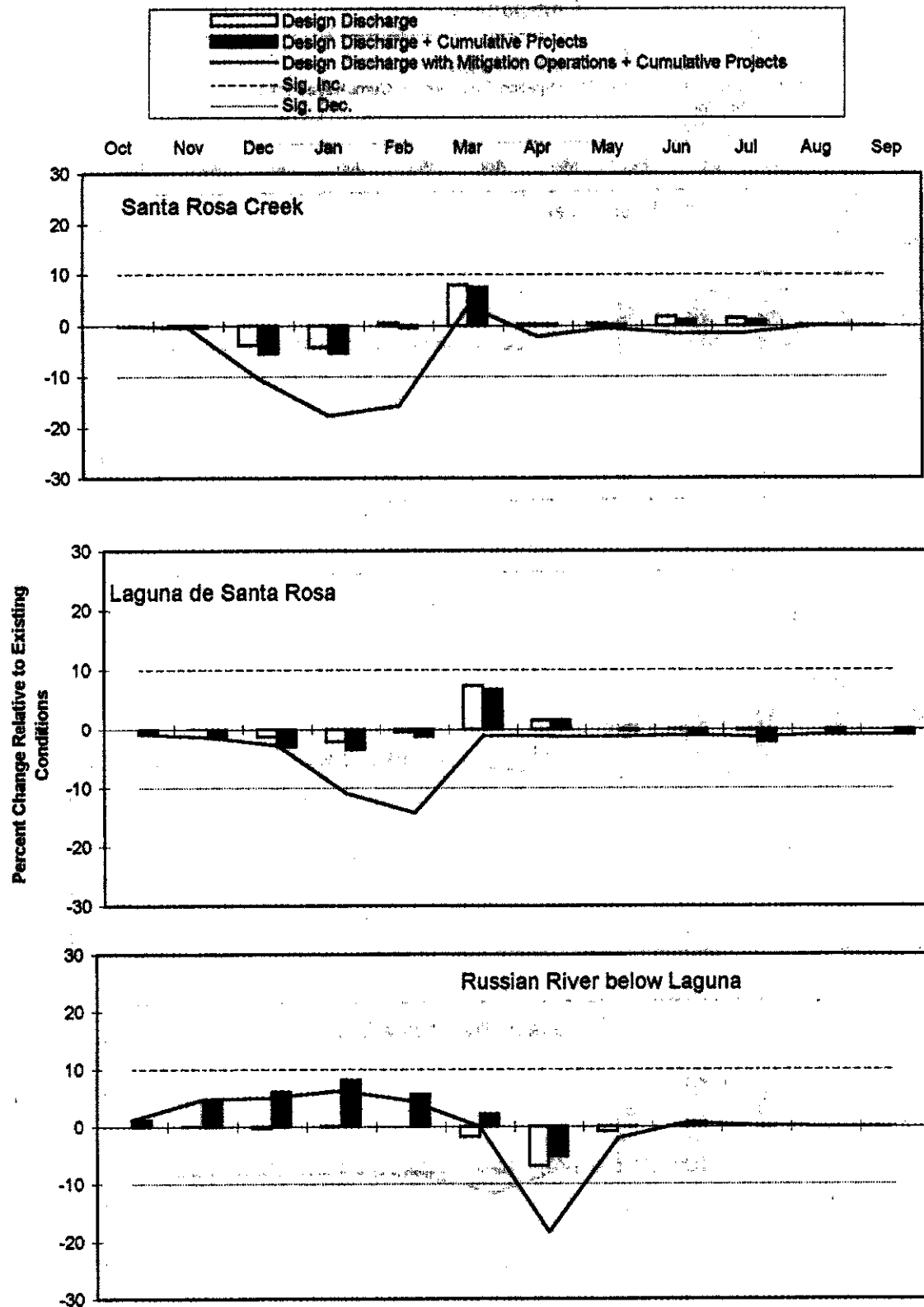


Figure 4-59. Cumulative Discharge Impacts on Benthic Algae - 20% Laguna Discharge Component

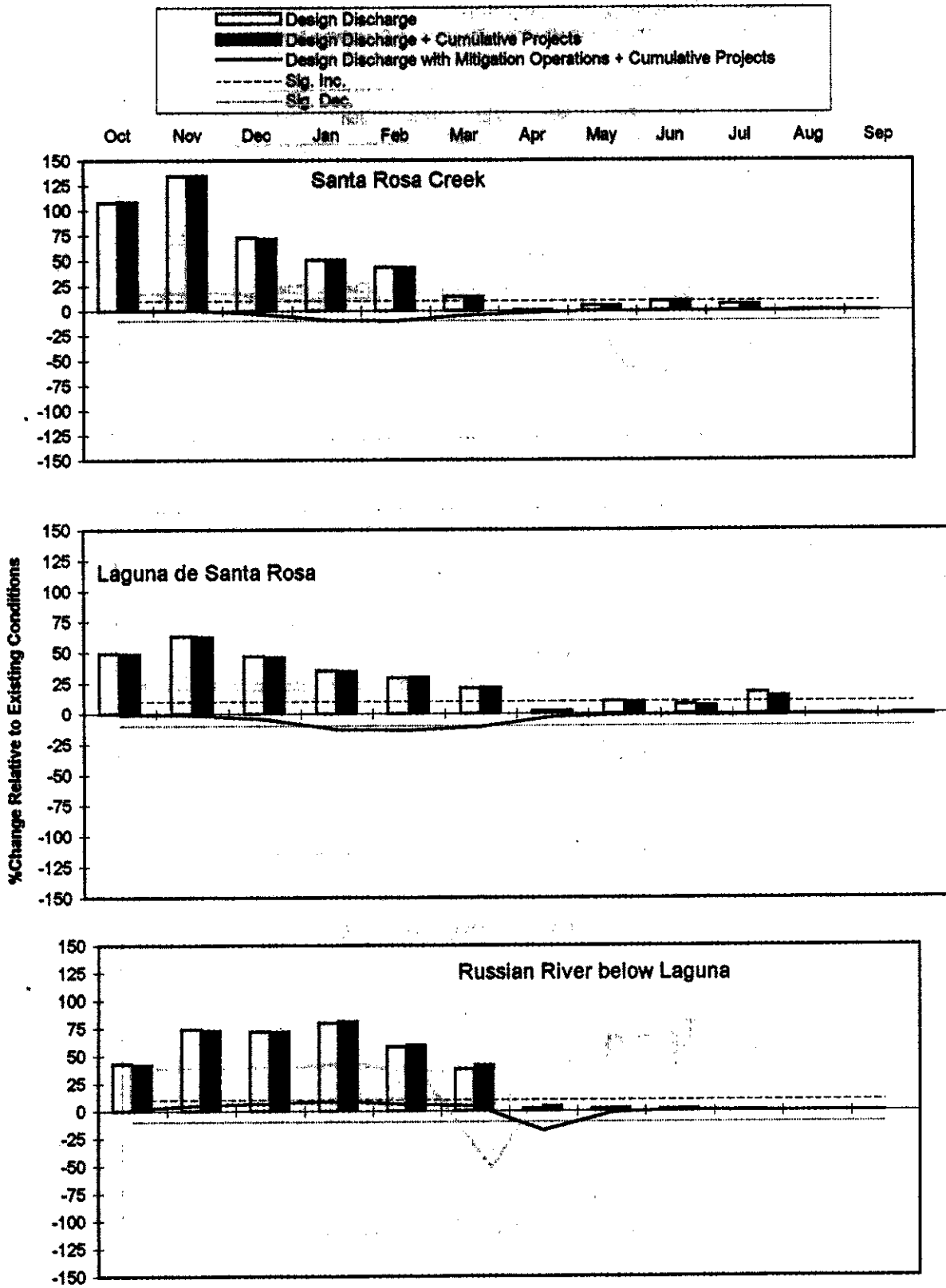
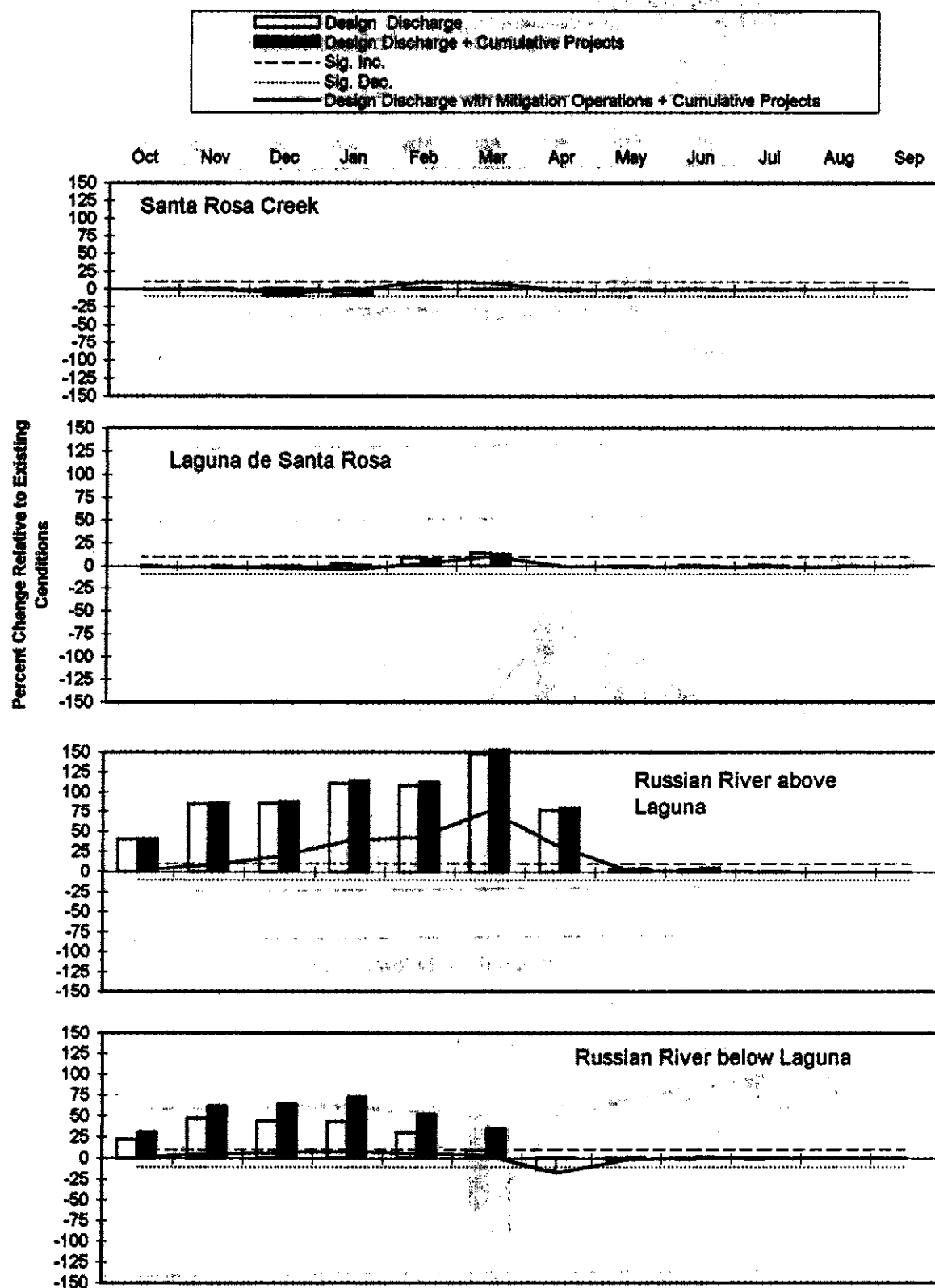


Figure 4-59. Cumulative Discharge Impacts on Benthic Algae - 20% Russian River Discharge Component



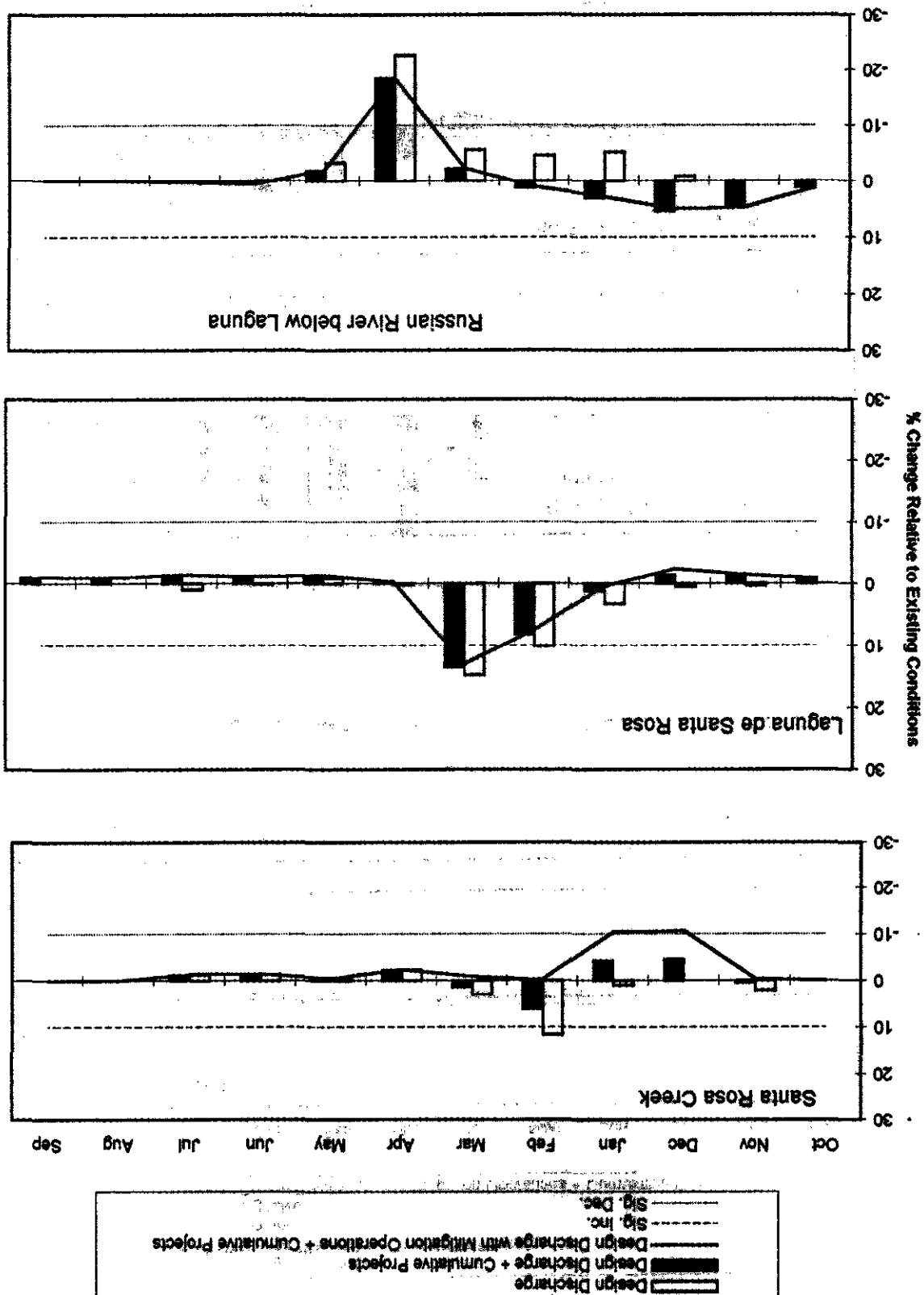


Figure 4-59. Cumulative Discharge Impacts on Benthic Algae - Geysers Discharge Component

Figure 4-59. Cumulative Discharge Impacts on Benthic Algae - No Project Discharge Component

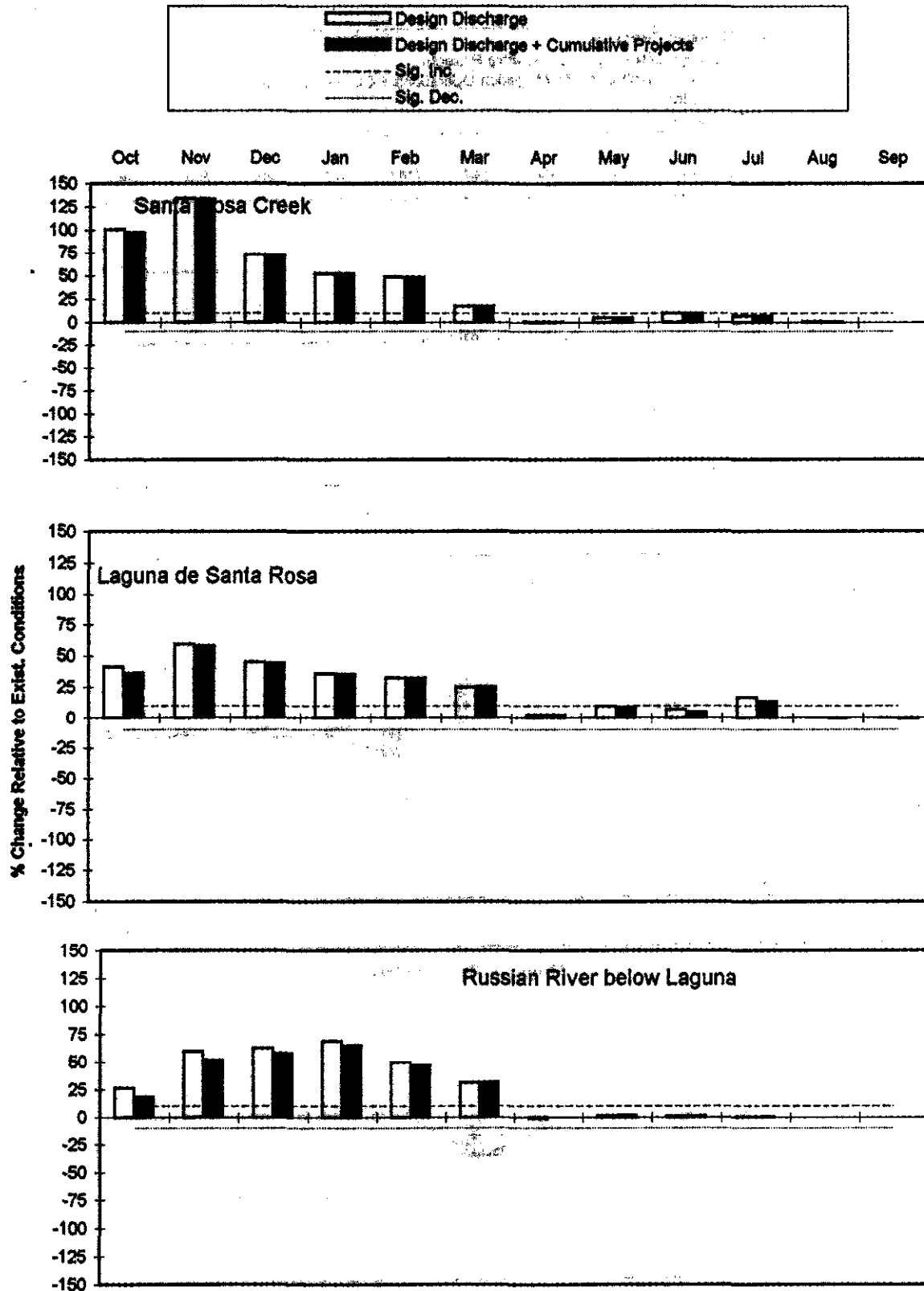


Figure 4-60. Cumulative Discharge Impacts on Planktonic Algae - 1% Discharge Component

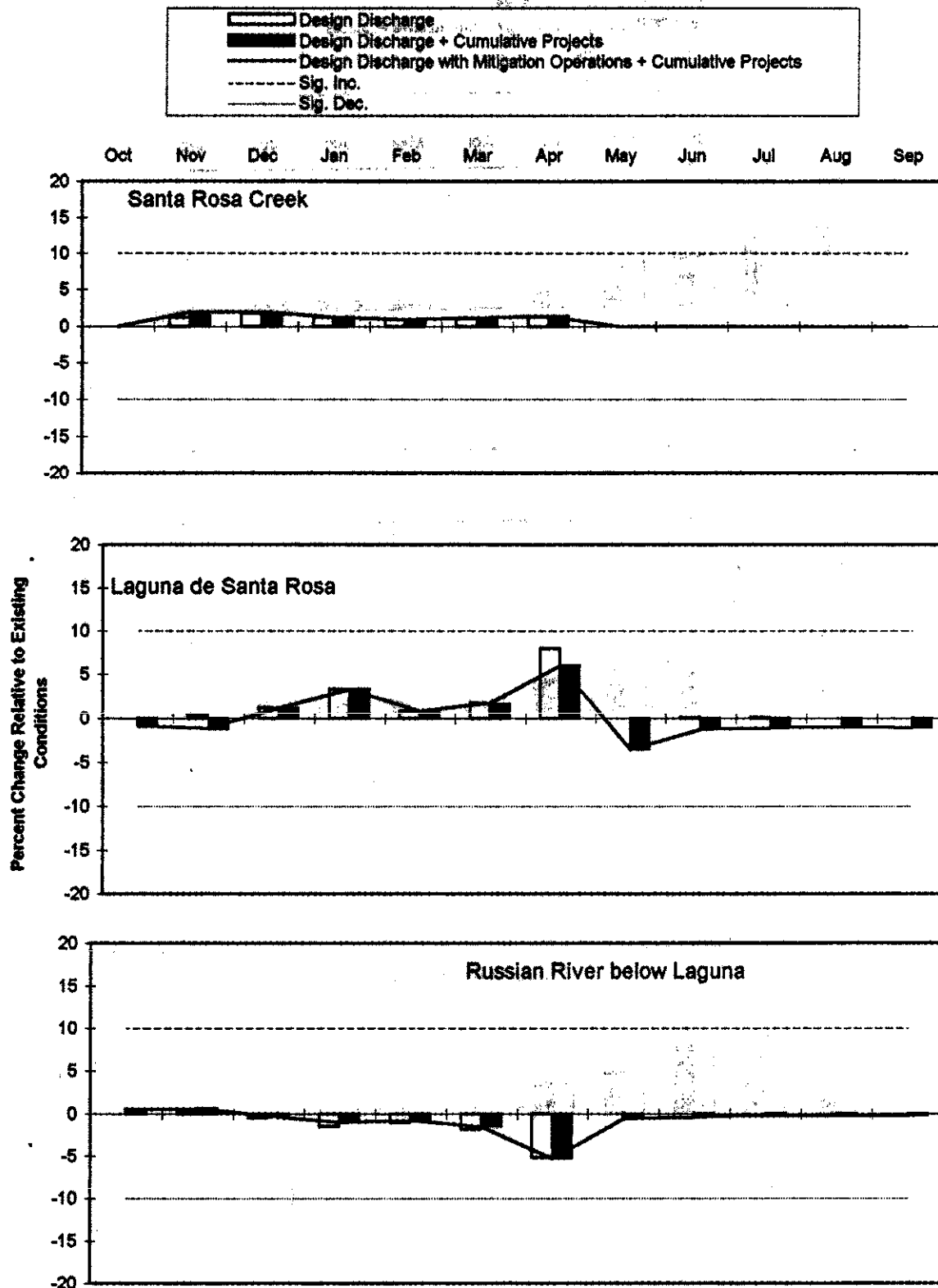


Figure 4-60. Cumulative Discharge Impacts on Planktonic Algae - 5% Discharge Component

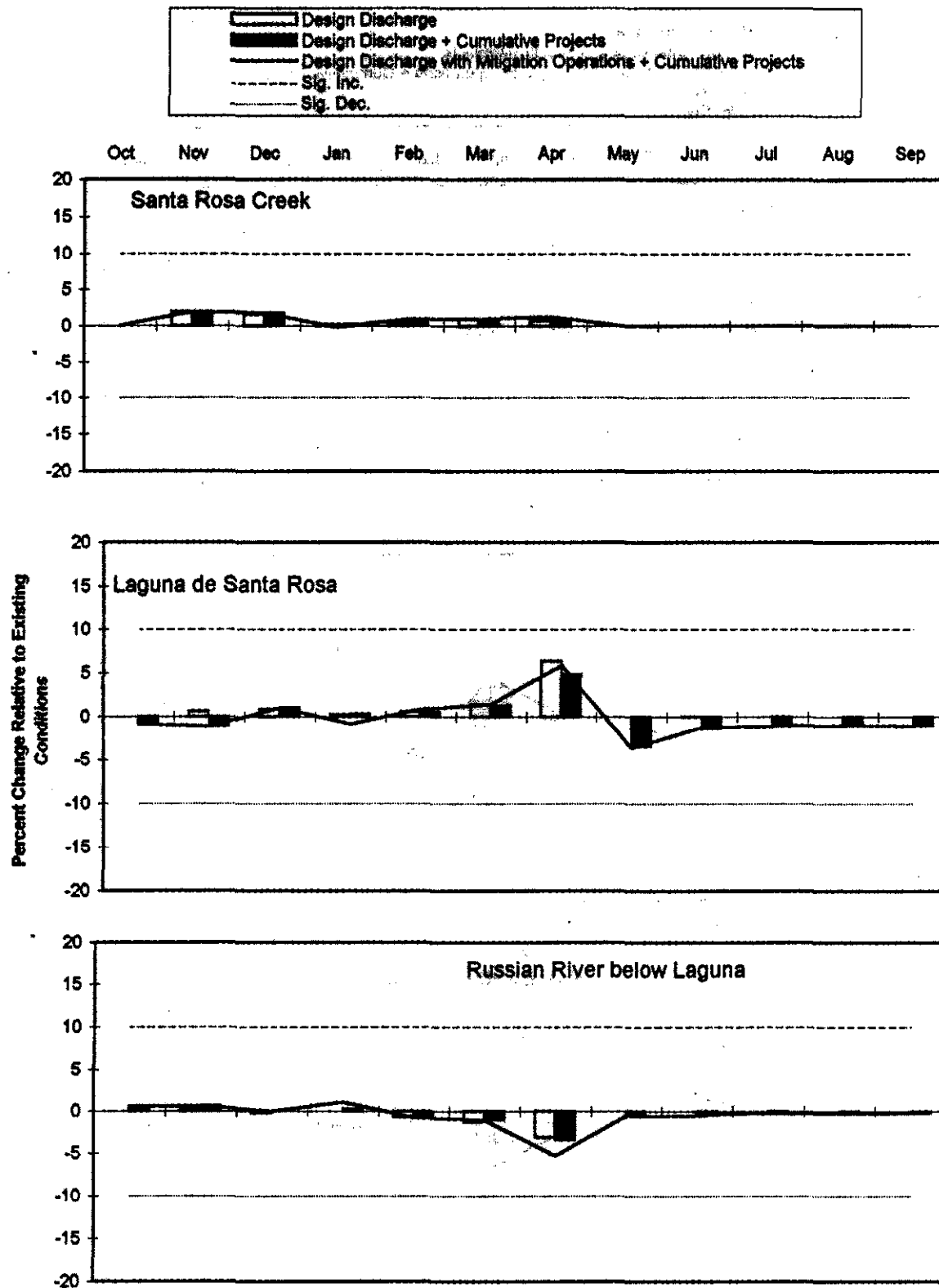


Figure 4-60. Cumulative Discharge Impacts on Planktonic Algae - 10% Discharge Component

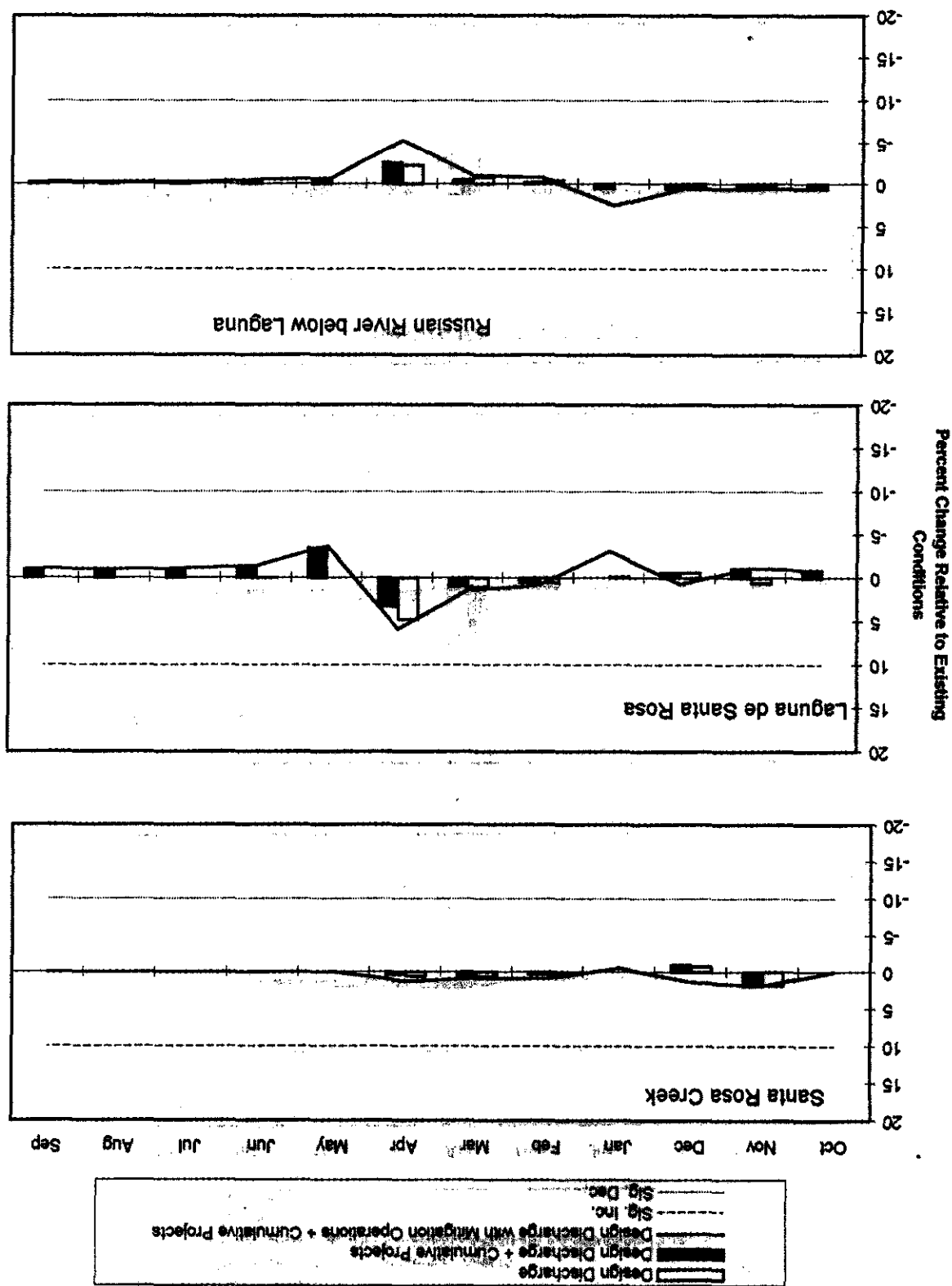


Figure 4-60. Cumulative Discharge Impacts on Planktonic Algae - 20% Laguna Discharge Component

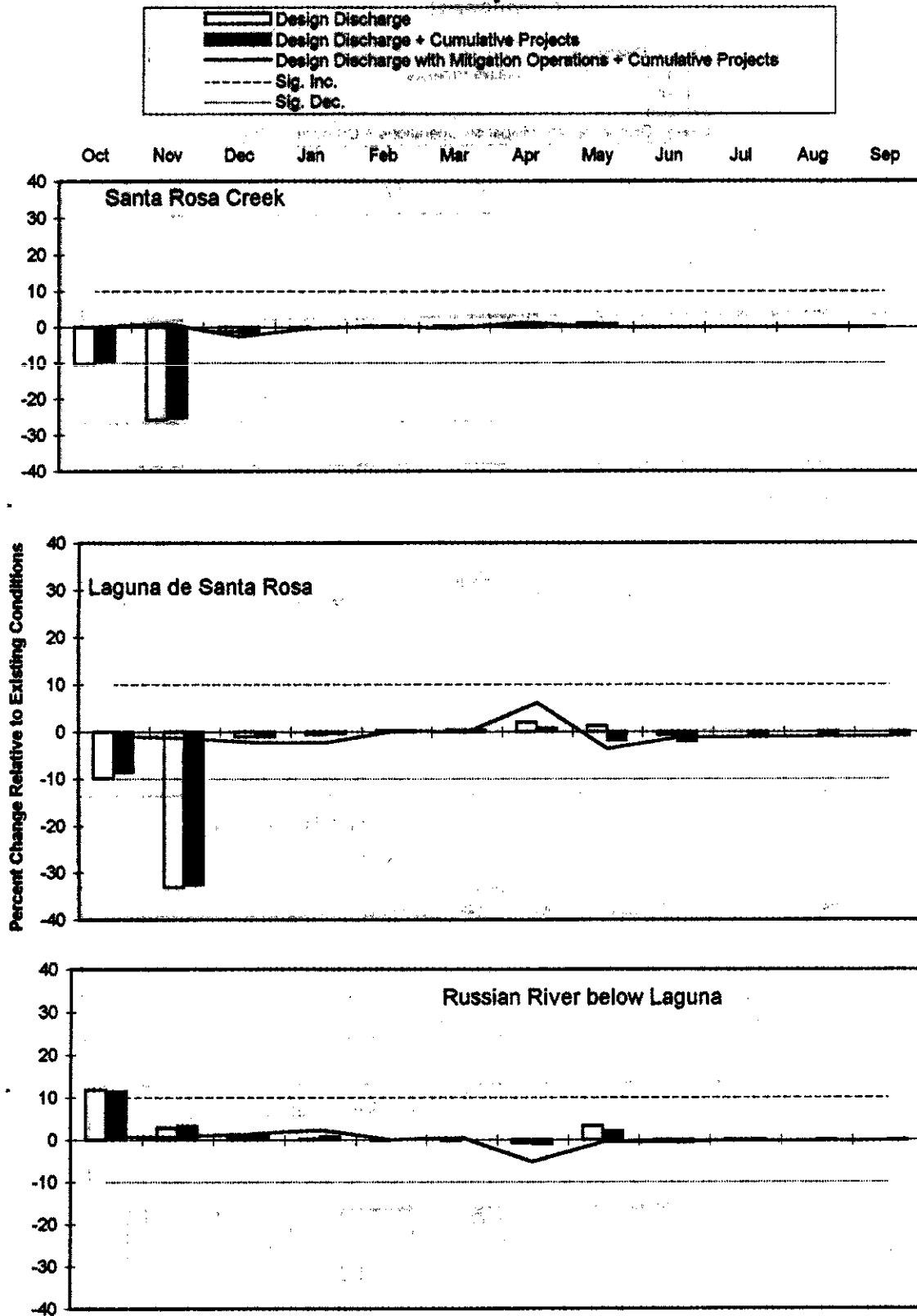


Figure 4-60. Cumulative Discharge Impacts on Planktonic Algae - 20% Russian River Discharge Component

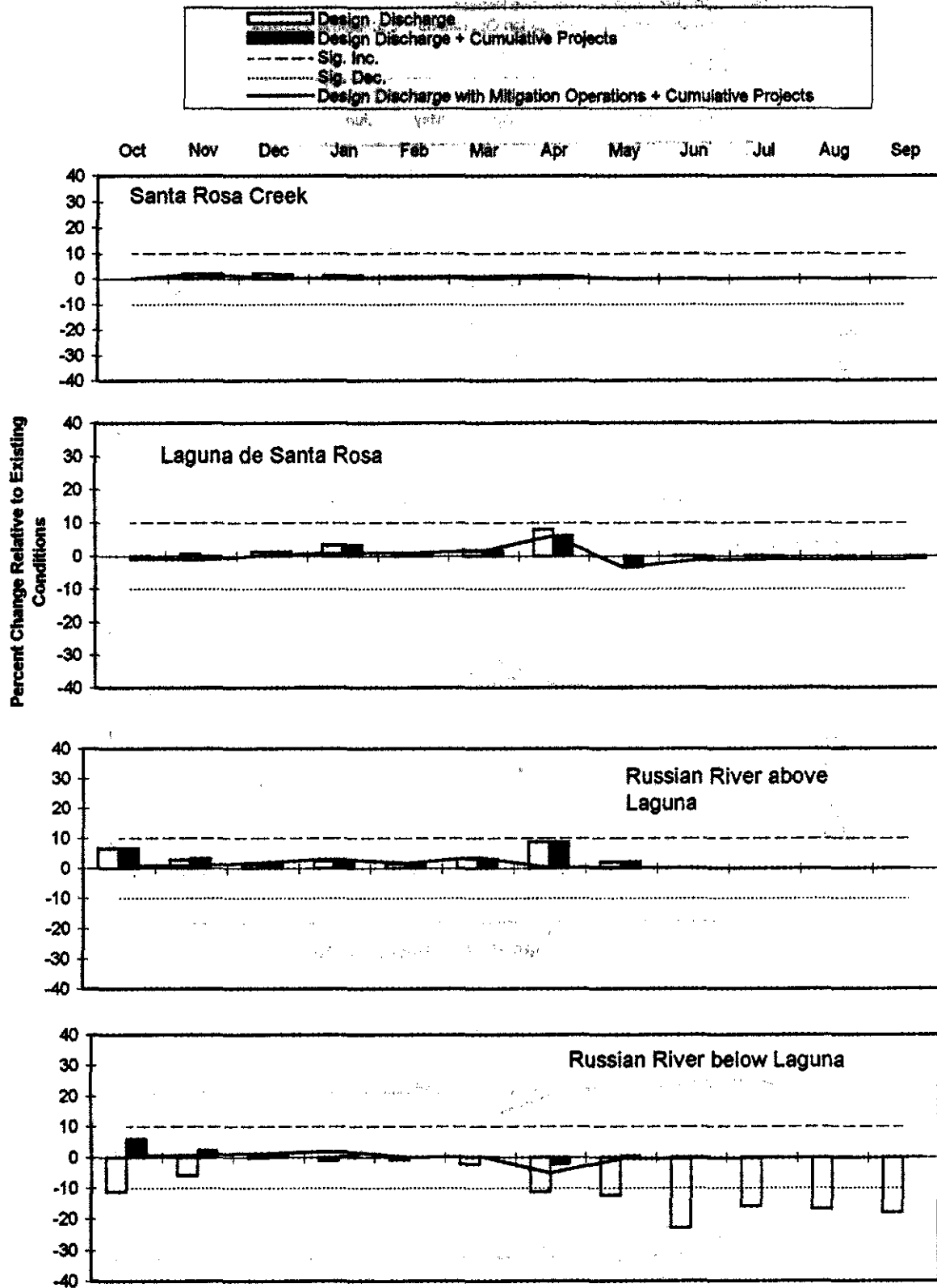


Figure 4-60. Cumulative Discharge Impacts on Planktonic Algae - Geysers Discharge Component

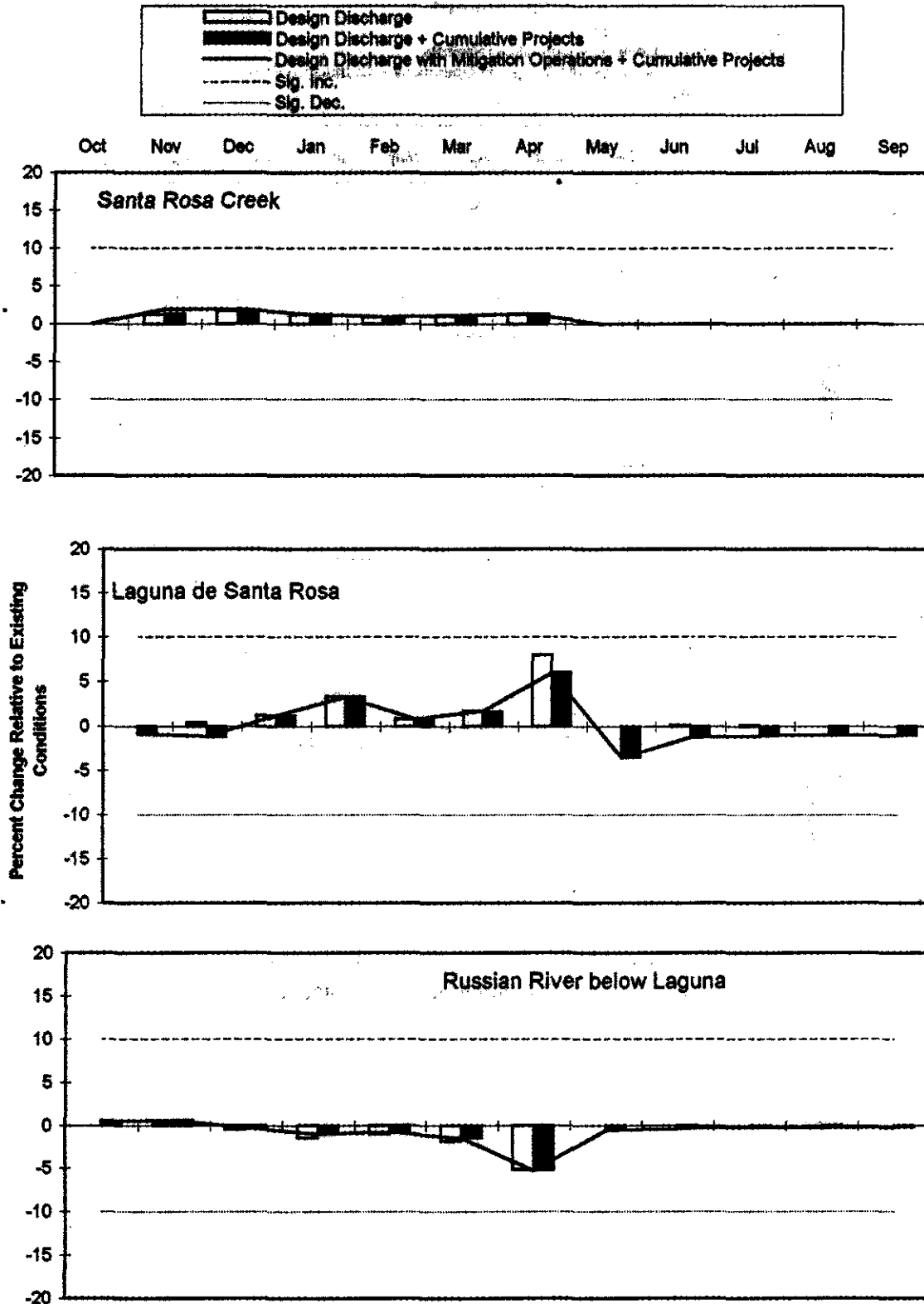


Figure 4-60. Cumulative Discharge Impacts on Planktonic Algae - No Project Discharge Component

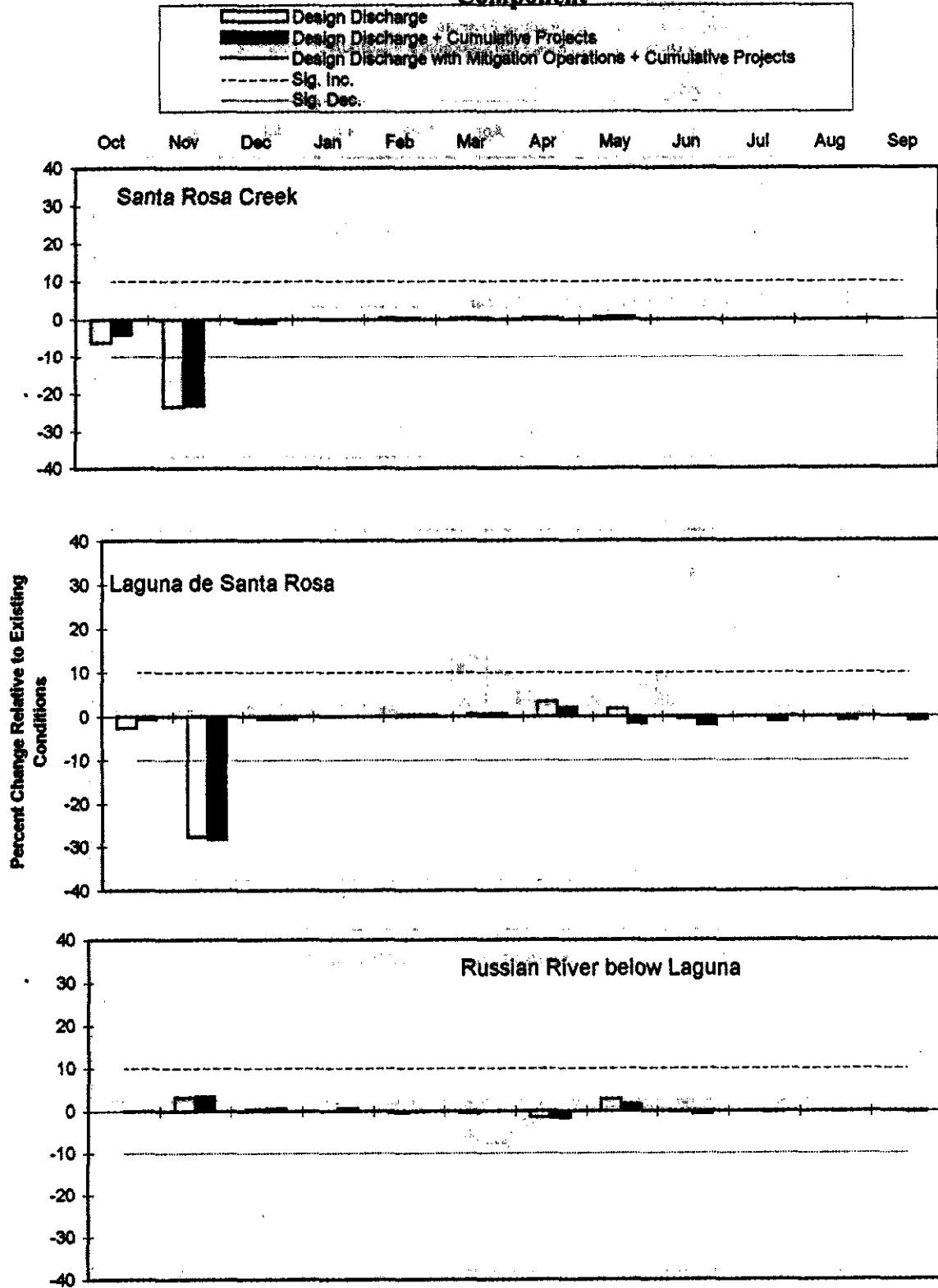


Figure 4-61. Cumulative Discharge Impacts on Dissolved Oxygen - 1% Discharge Component

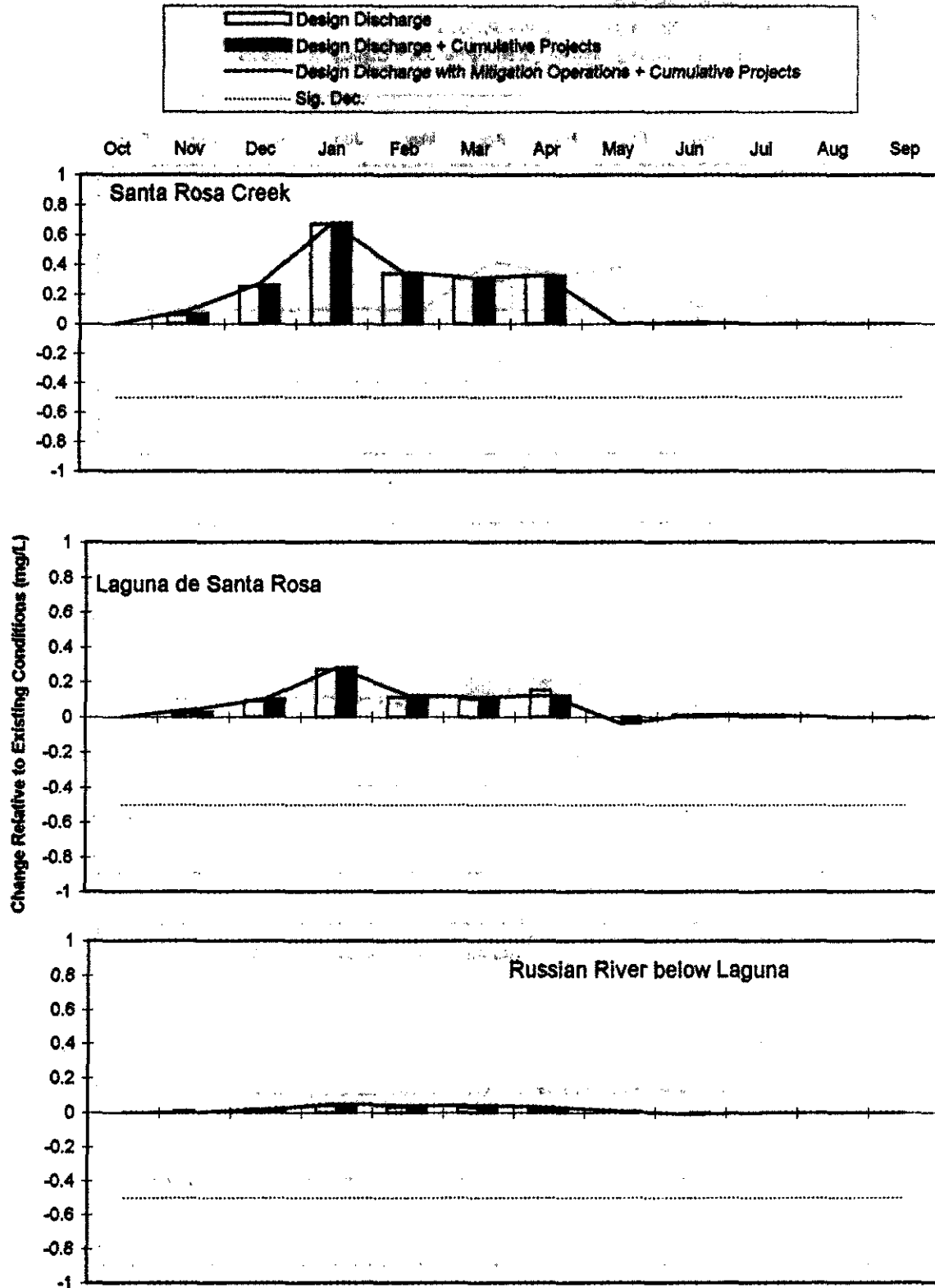


Figure 4-61. Cumulative Discharge Impacts on Dissolved Oxygen - 5% Discharge Component

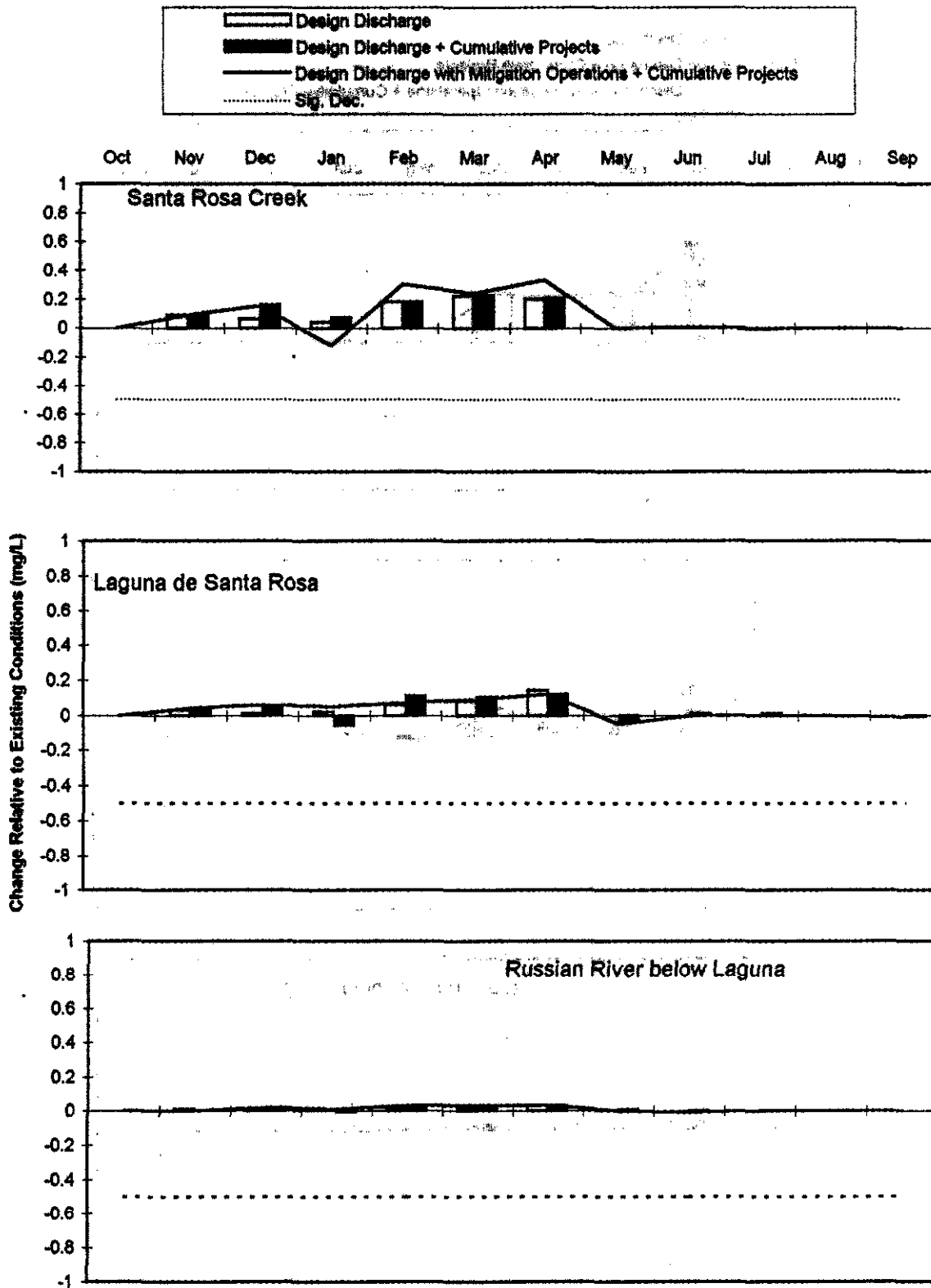


Figure 4-61. Cumulative Discharge Impacts on Dissolved Oxygen - 10% Discharge Component

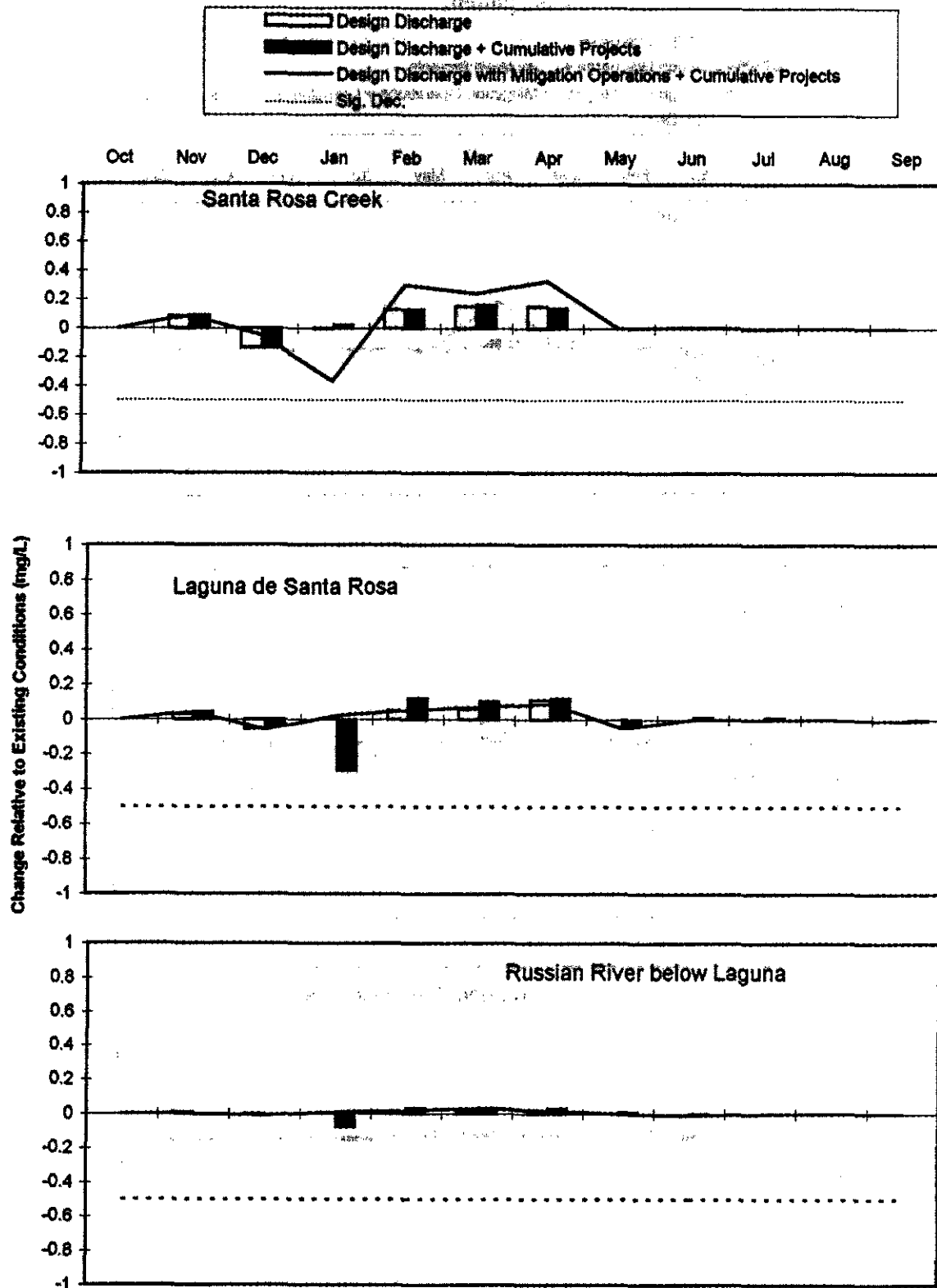


Figure 4-61. Cumulative Discharge Impacts on Dissolved Oxygen - 20% Laguna Discharge Component

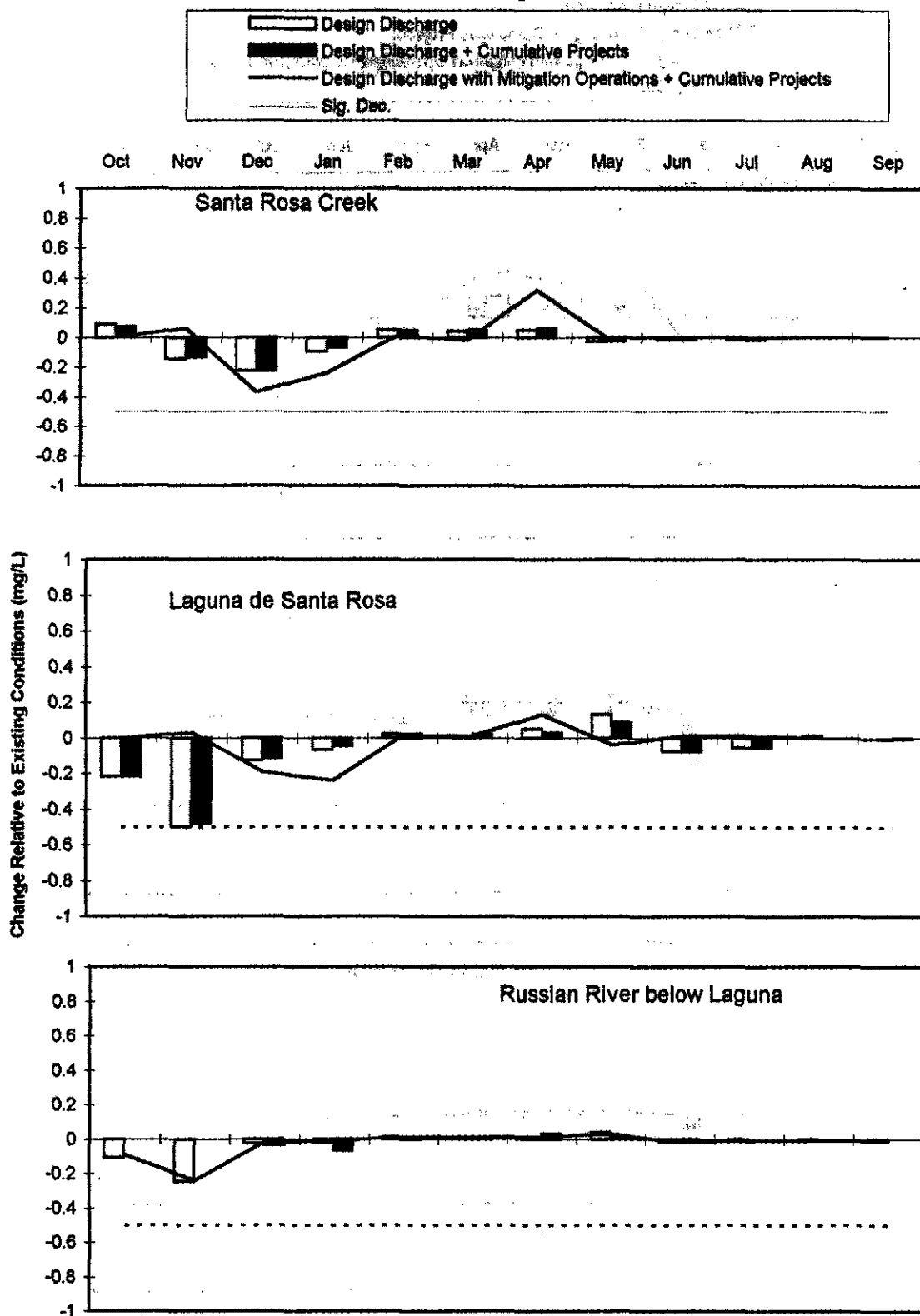


Figure 4-61. Cumulative Discharge Impacts on Dissolved Oxygen - 20% Russian River Discharge Component

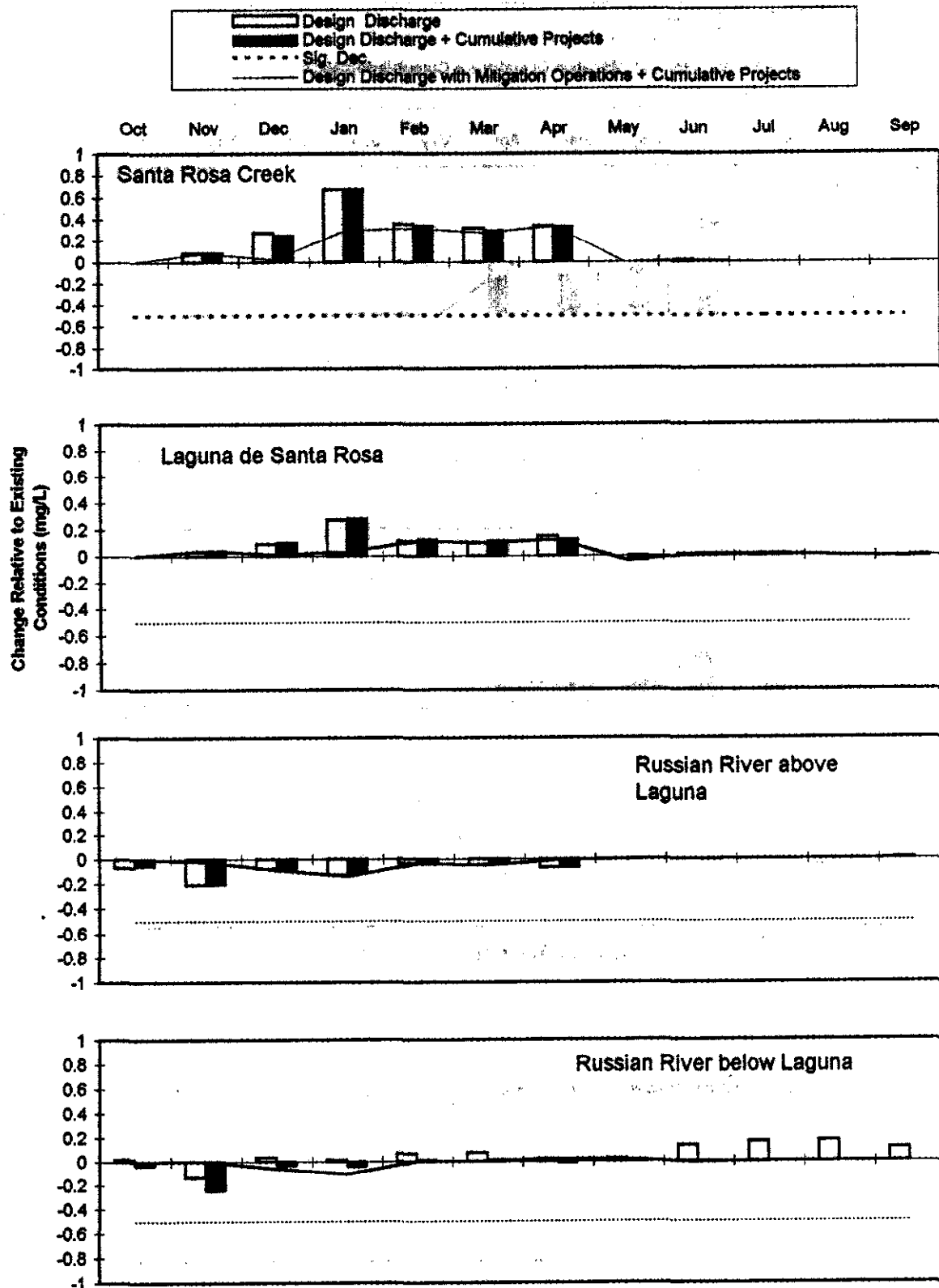


Figure 4-61. Cumulative Discharge Impacts on Dissolved Oxygen - Geysers Discharge Component

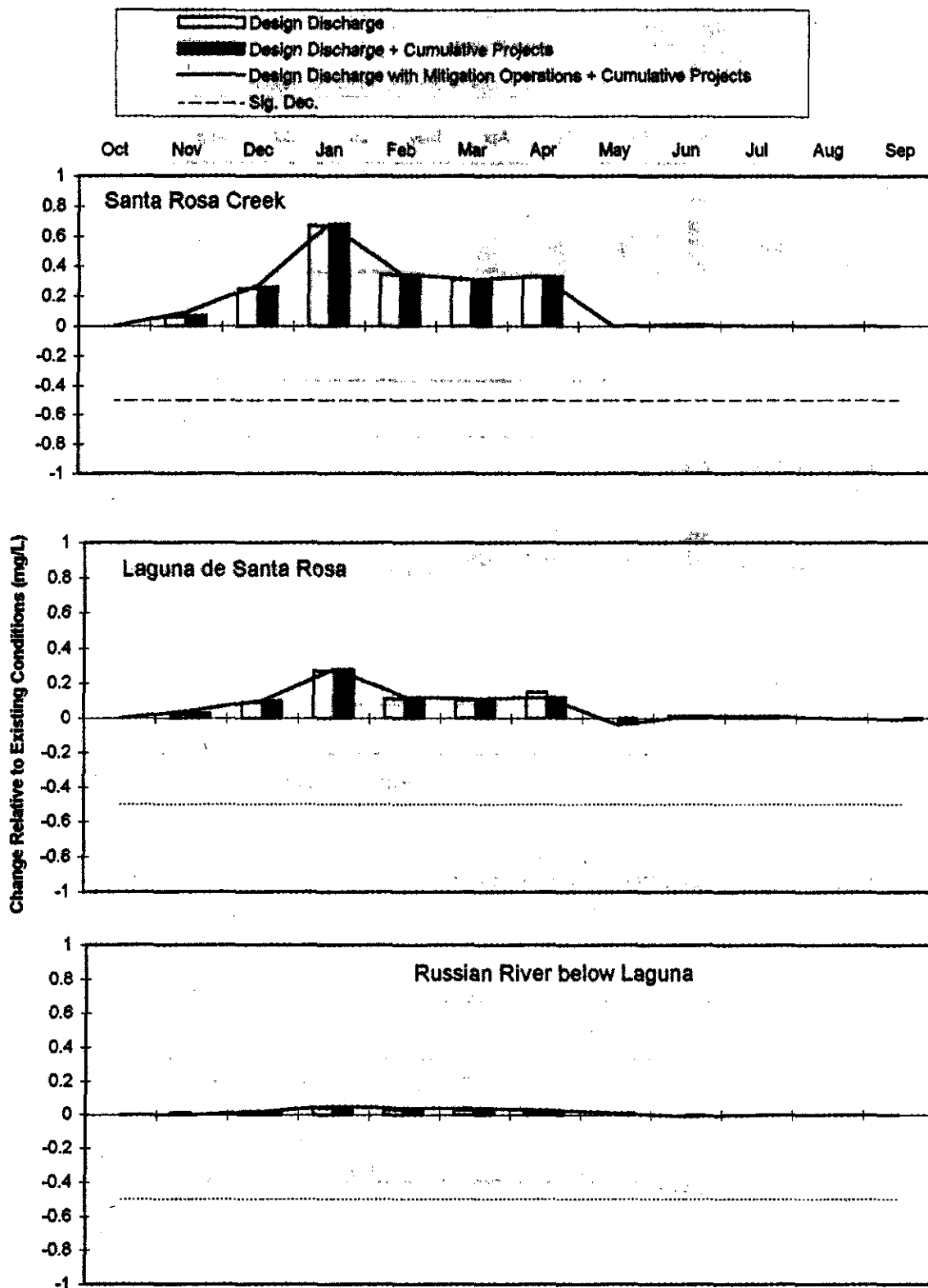


Figure 4-61. Cumulative Discharge Impacts on Dissolved Oxygen - No Project Discharge Component

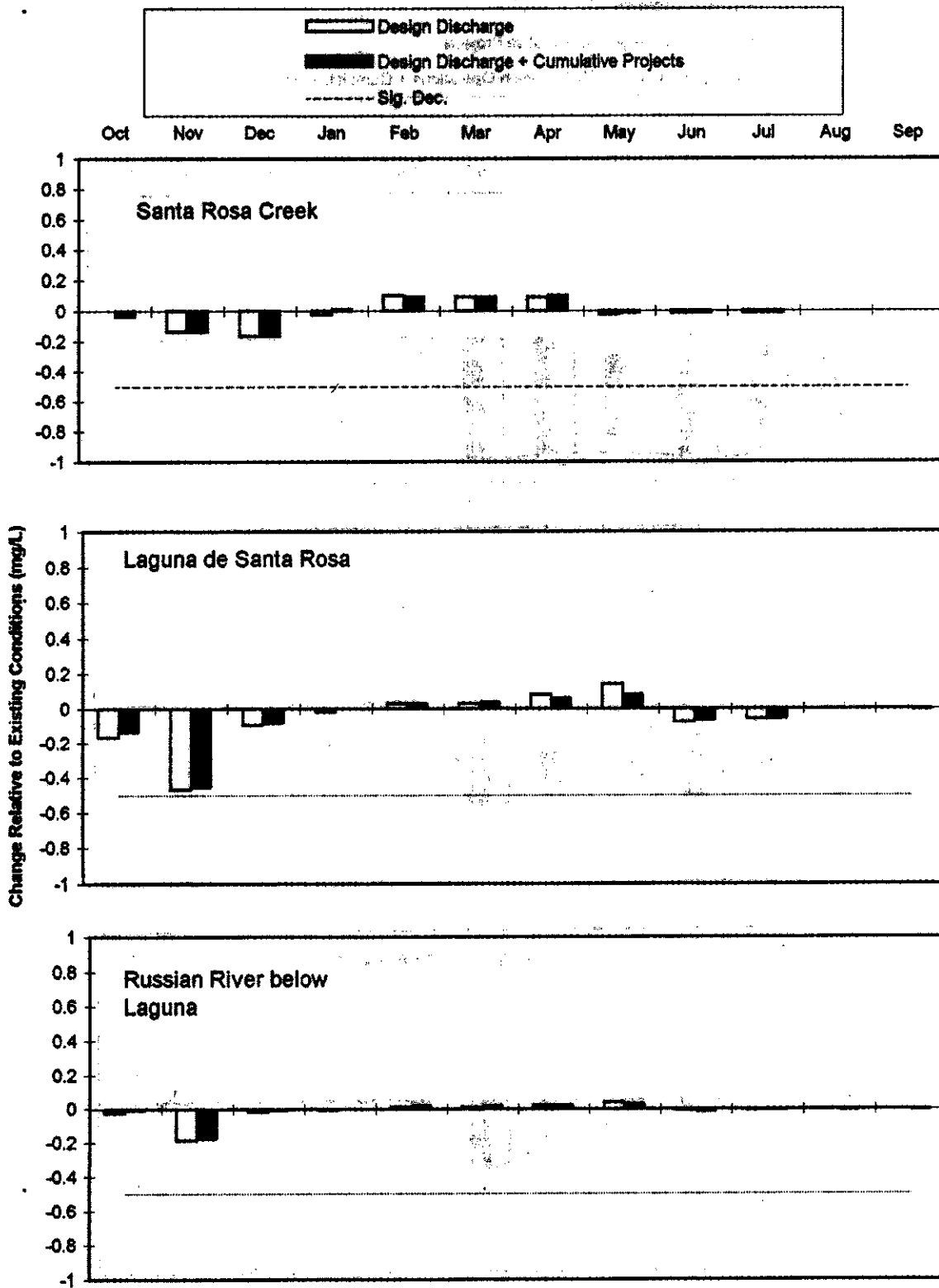


Figure 4-62. Cumulative Discharge Impacts on Ammonia - 1% Discharge Component

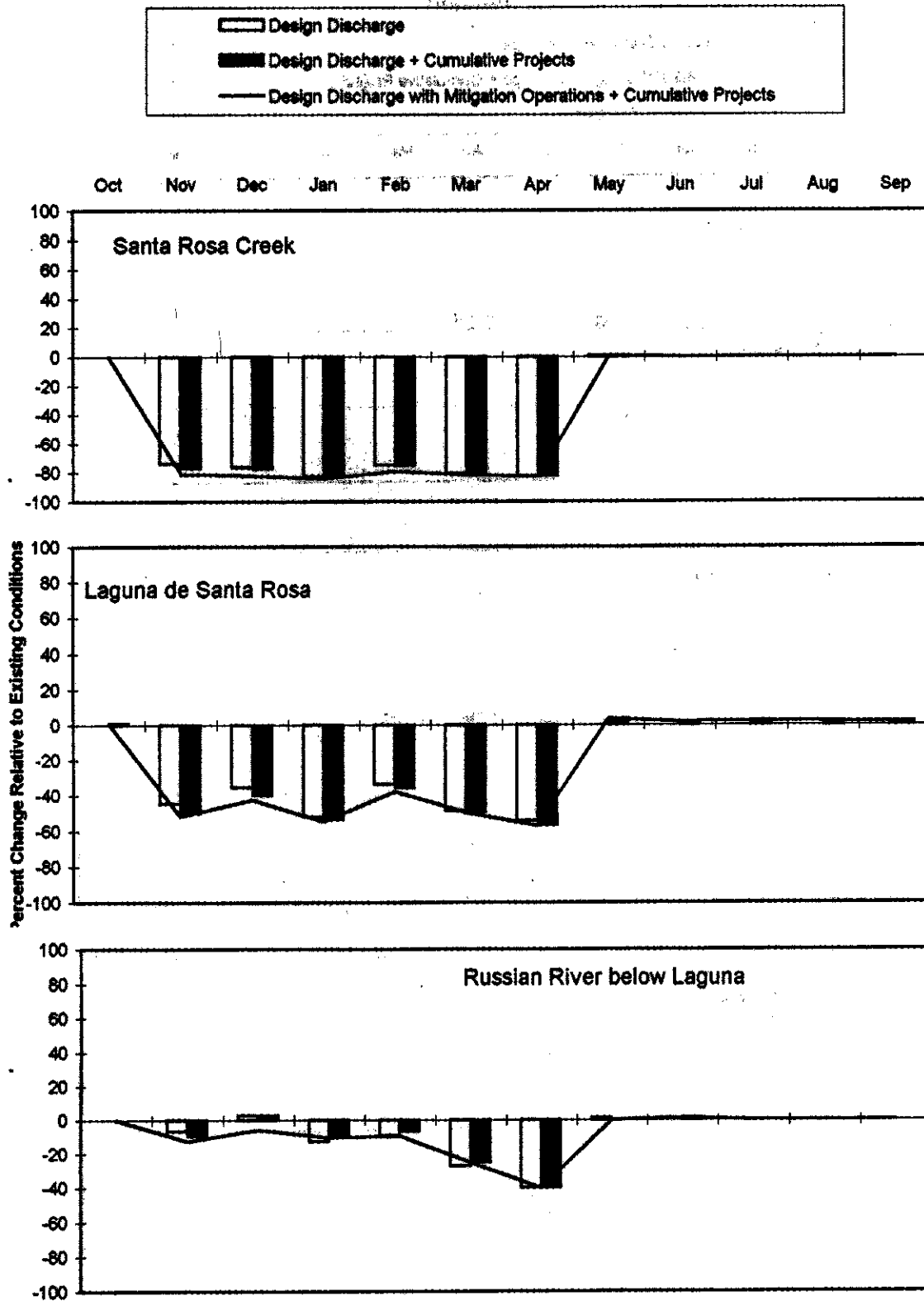


Figure 4-62. Cumulative Discharge Impacts on Ammonia - 5% Discharge Component

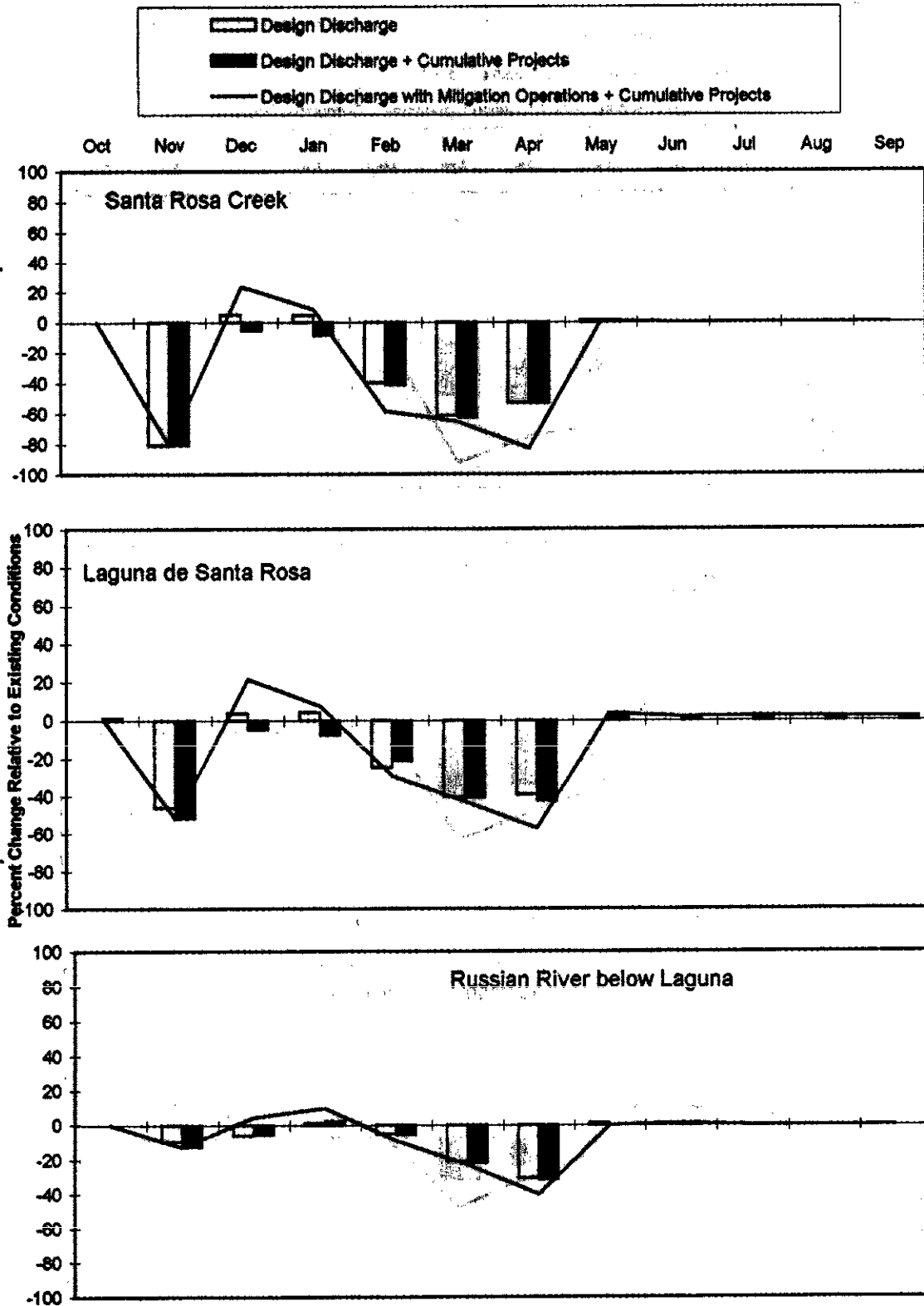


Figure 4-62. Cumulative Discharge Impacts on Ammonia - 10% Discharge Component

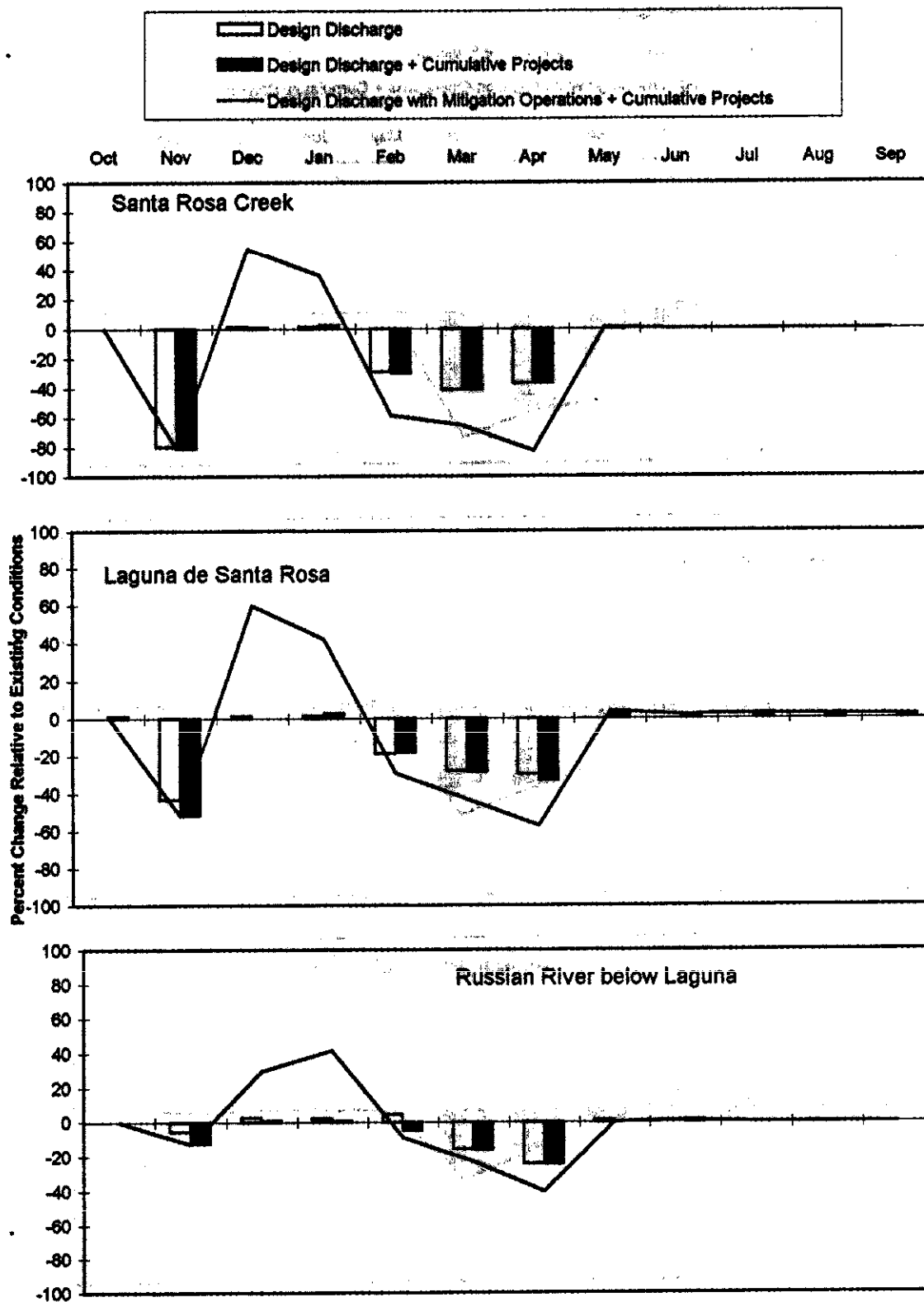


Figure 4-62. Cumulative Discharge Impacts on Ammonia - 20% Laguna Discharge Component

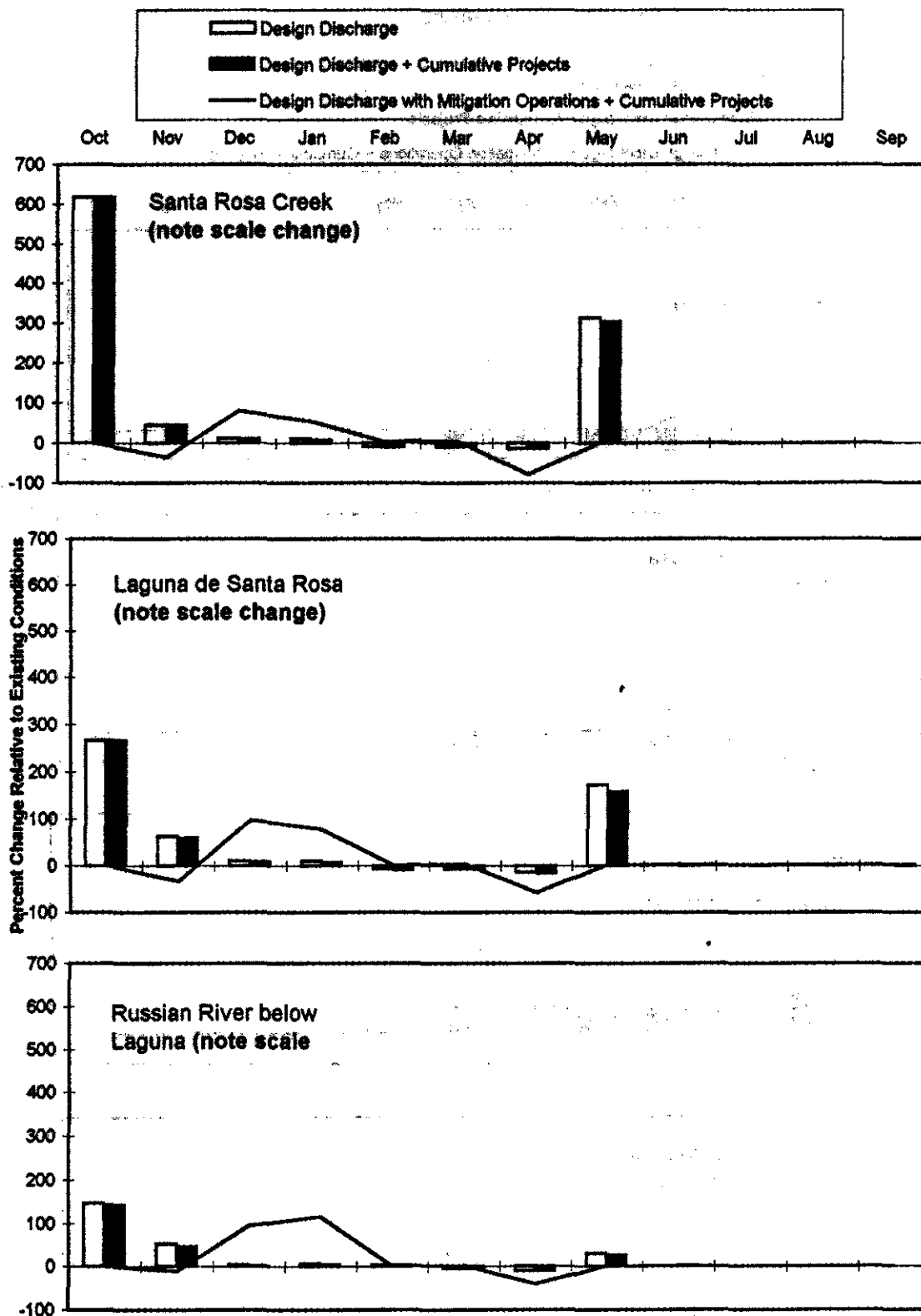


Figure 4-62. Cumulative Discharge Impacts on Ammonia - 20% Russian River Discharge Component

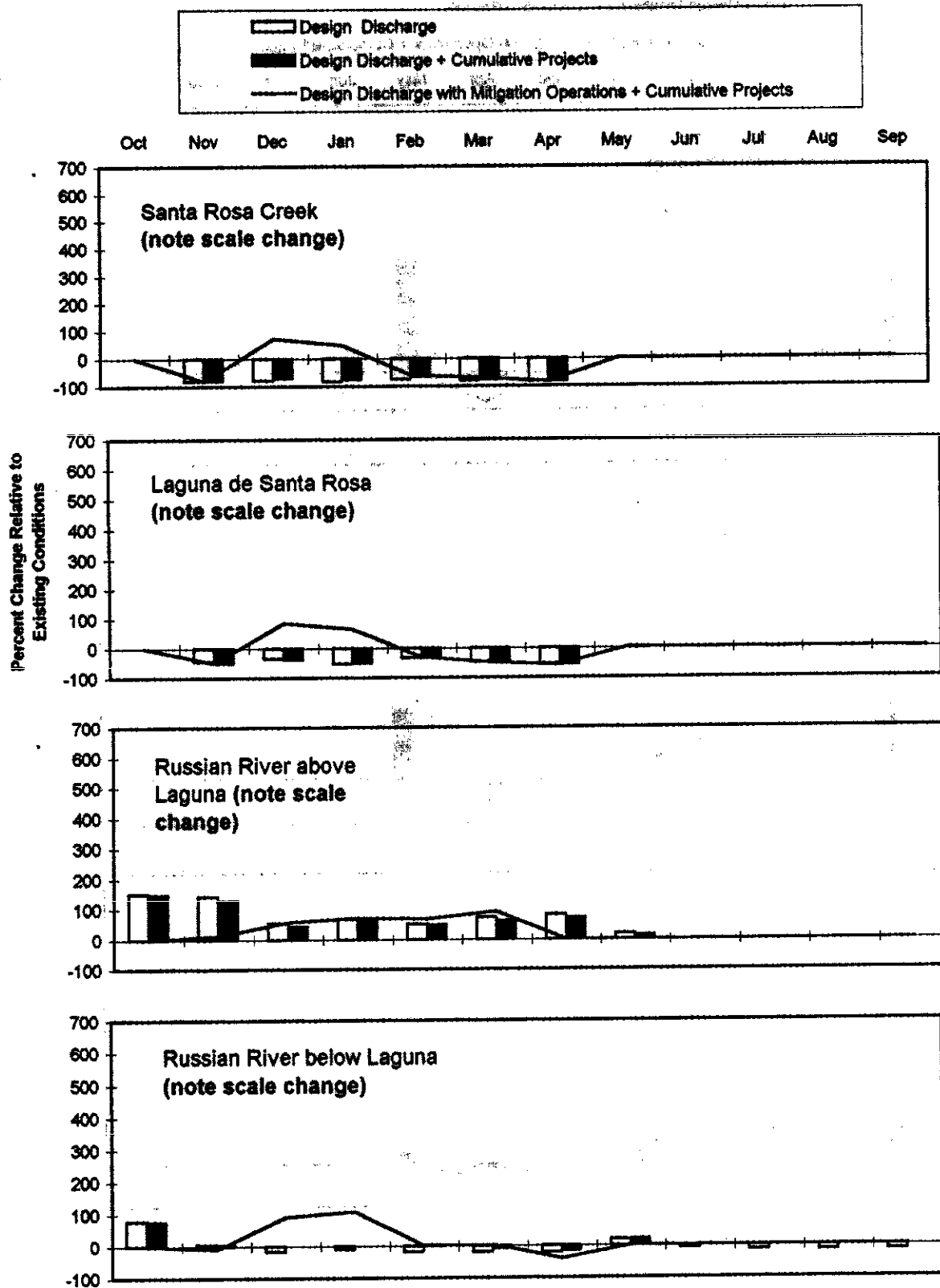


Figure 4-62. Cumulative Discharge Impacts on Ammonia - Geysers Discharge Component

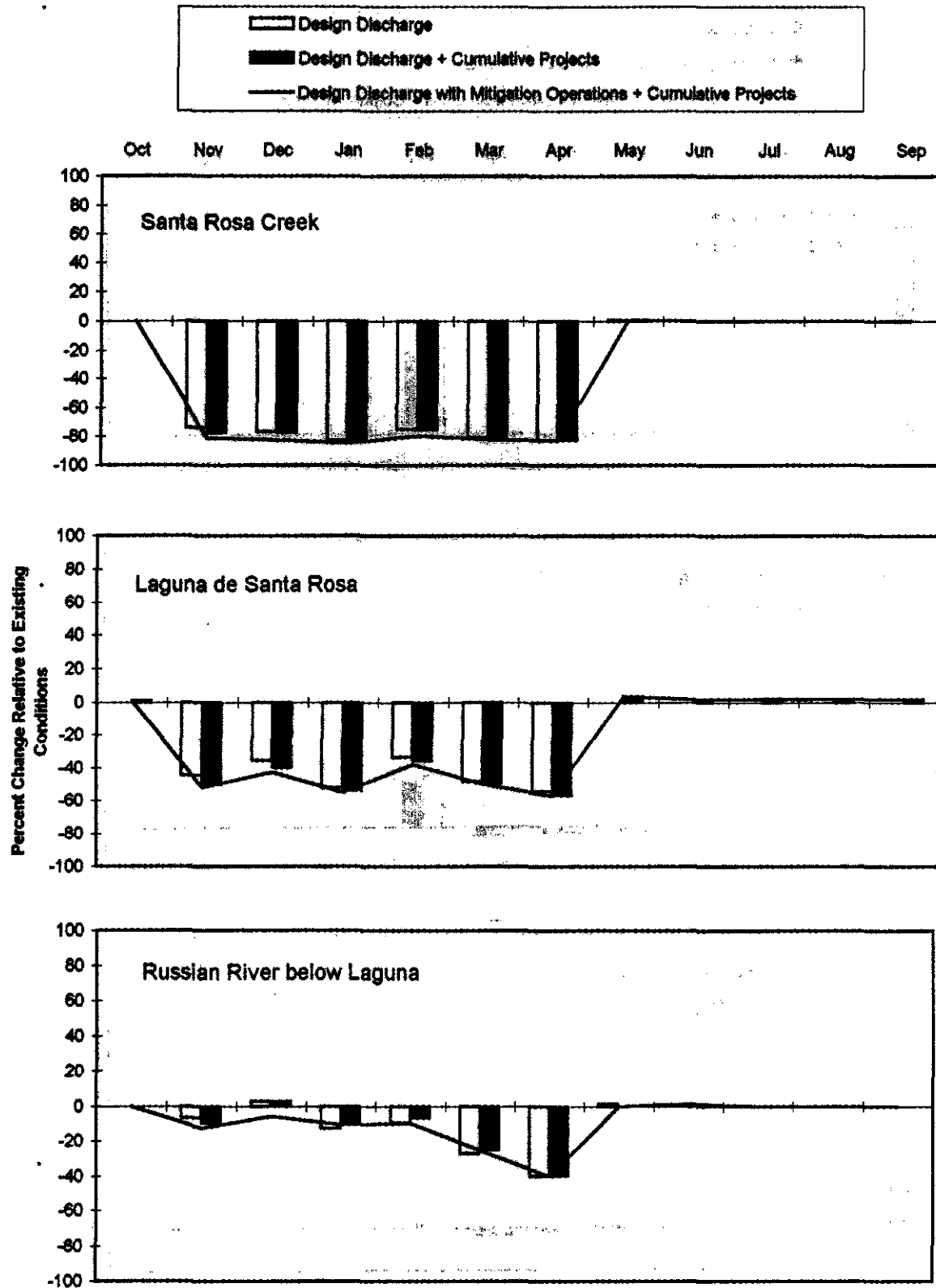


Figure 4-62. Cumulative Discharge Impacts on Ammonia - No Project Discharge Component

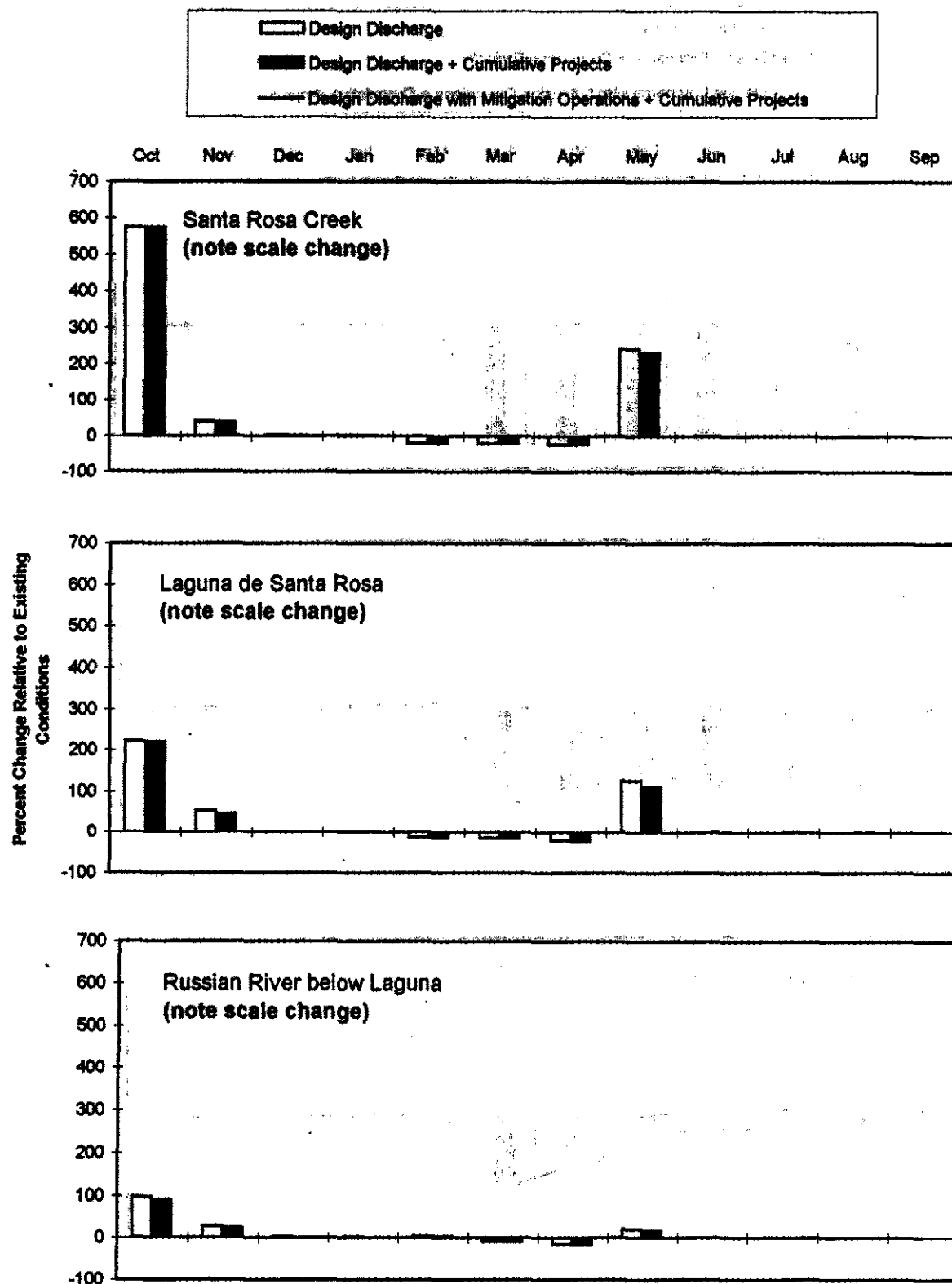


Figure 6-6. Predicted Versus Existing Metals Concentrations in Estero Americano
Average Hydrology Year with Cool Summer Irrigation - Bar Open
 (Concentrations shown above each bar in mg/L)

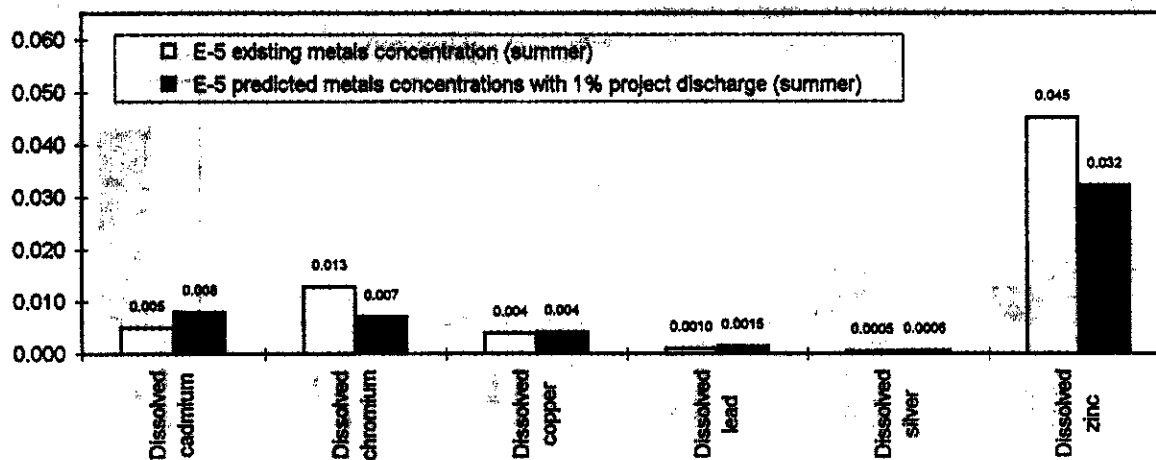
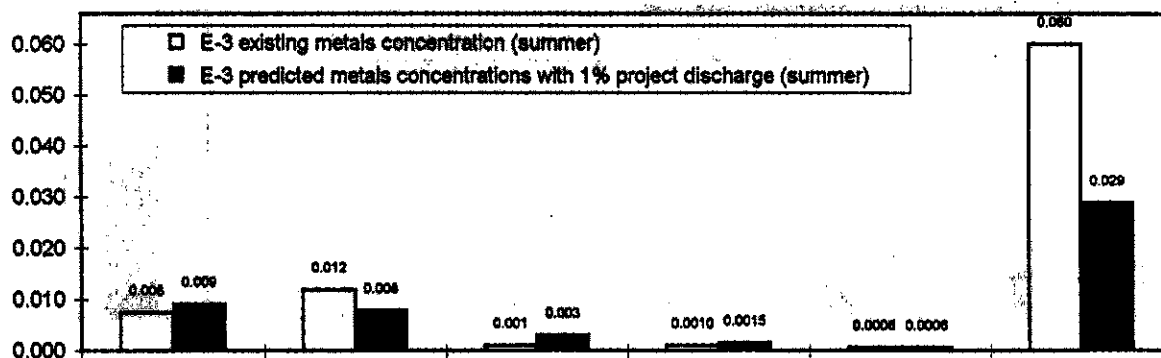
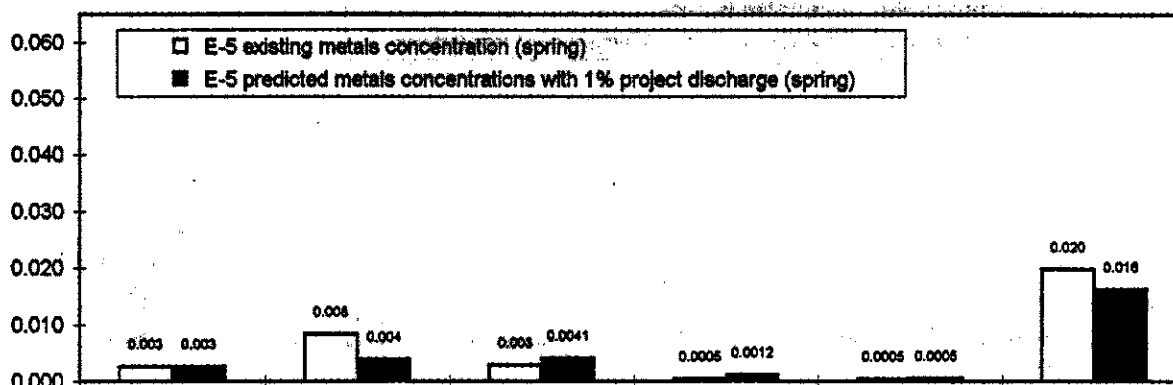
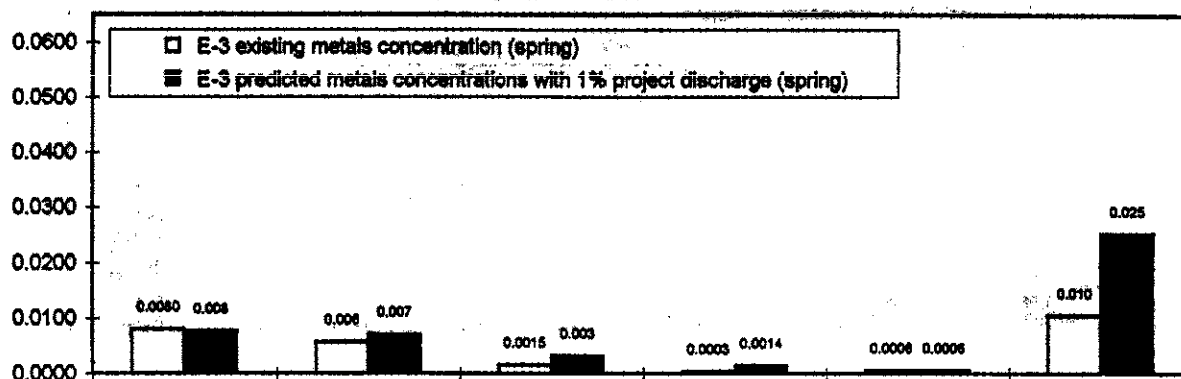


Figure 6-6. Predicted Versus Existing Metals Concentrations in Estero Americano
Average Hydrology Year with Cool Summer Irrigation - Bar Closed
 (Concentrations shown above each bar in mg/L)

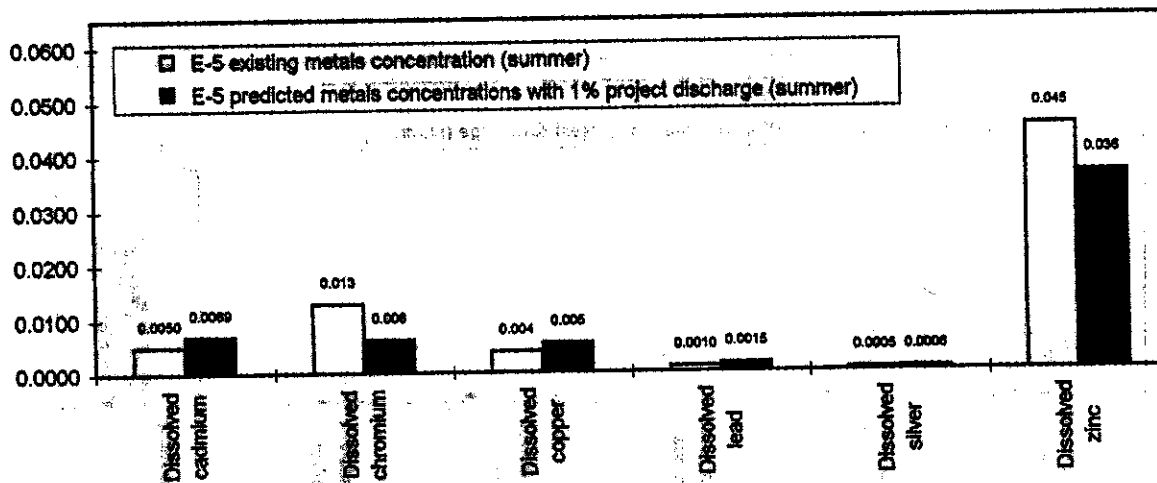
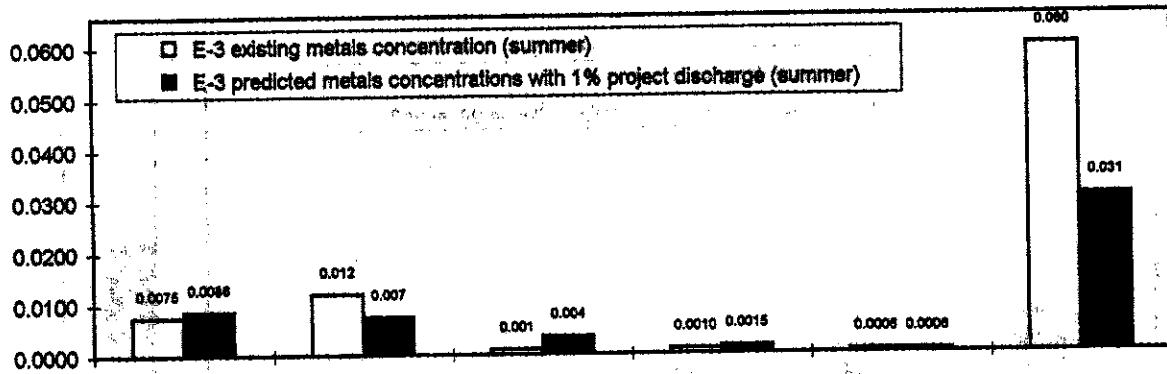
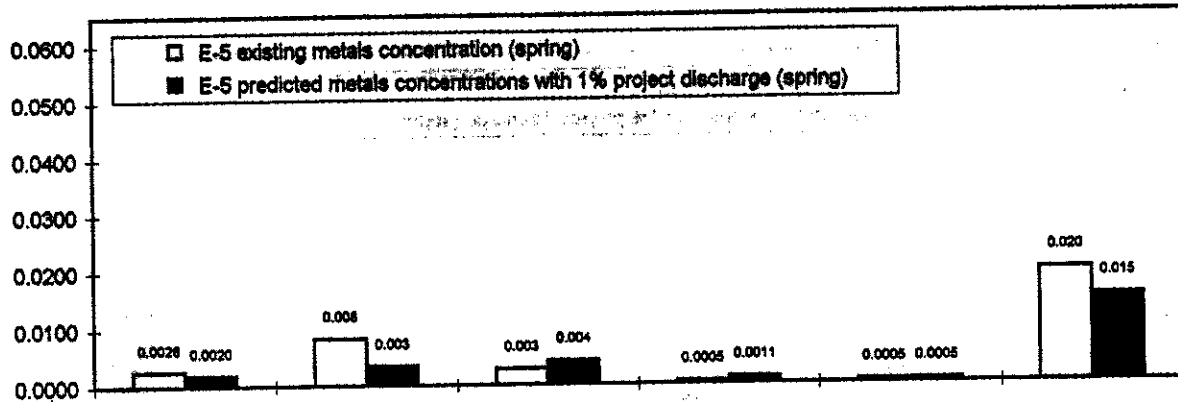
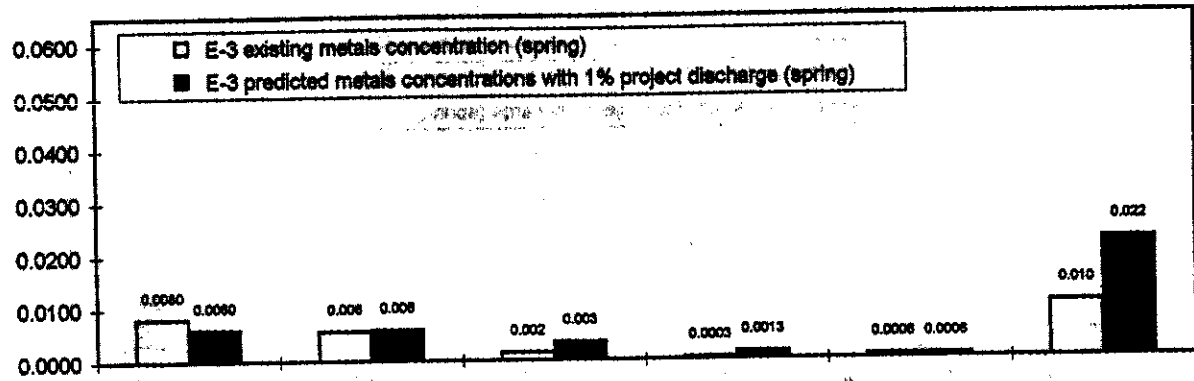


Figure 6-6. Predicted Versus Existing Metals Concentrations in Estero Americano
Wet Year - Bar Open
 (Concentrations shown above each bar in mg/L)

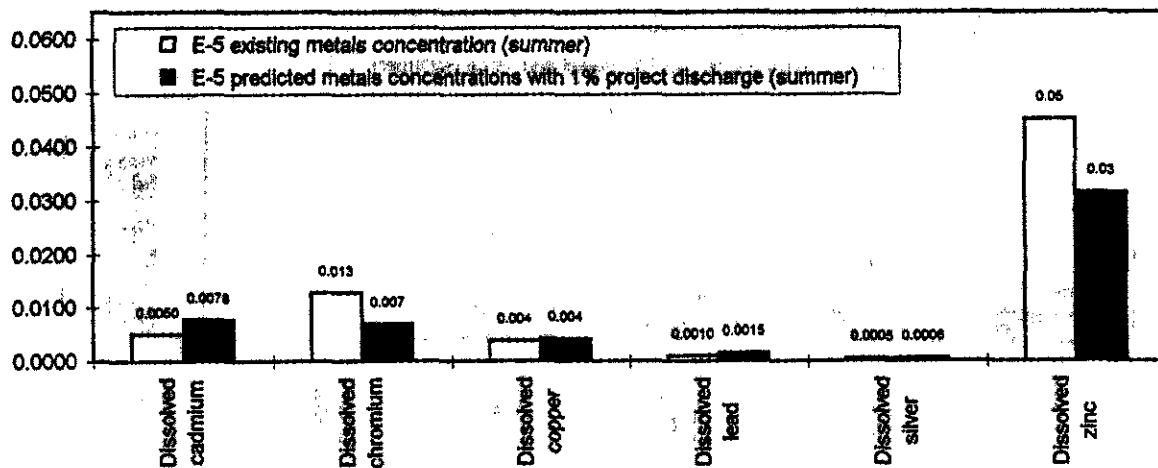
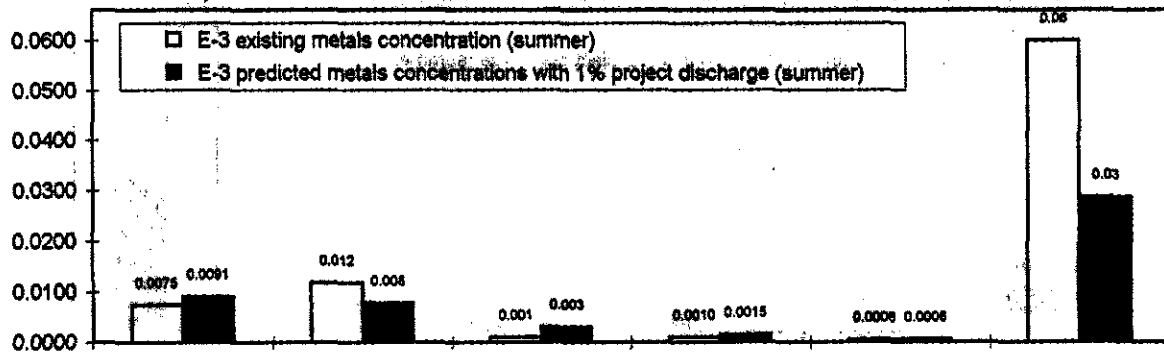
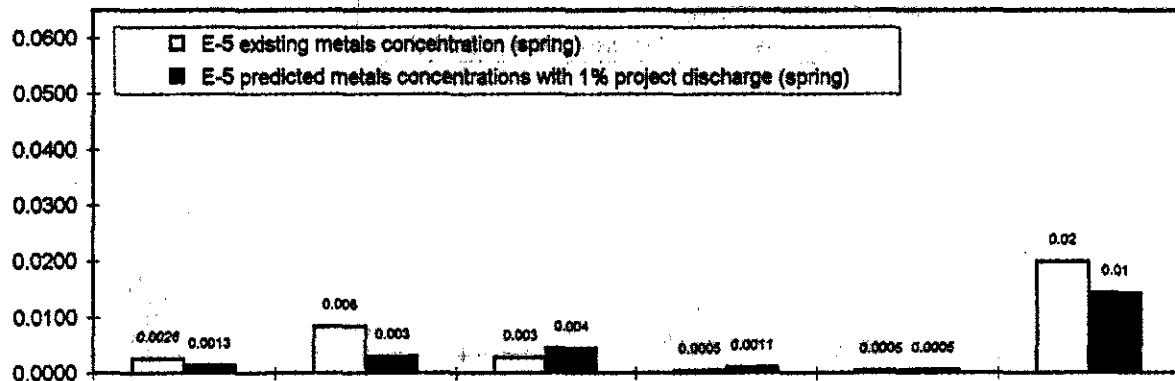
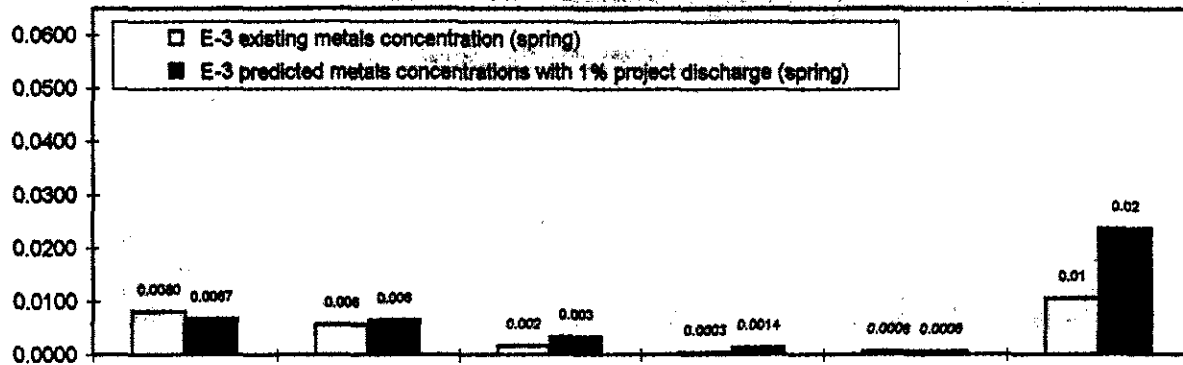


Figure 6-6. Predicted Versus Existing Metals Concentrations in Estero Americano
Wet Year - Bar Closed
 (Concentrations shown above each bar in mg/L)

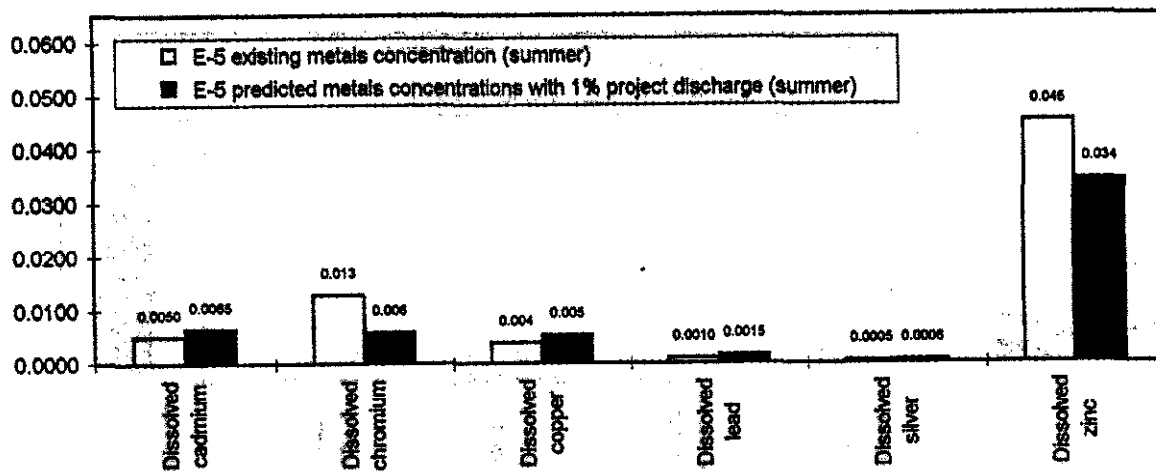
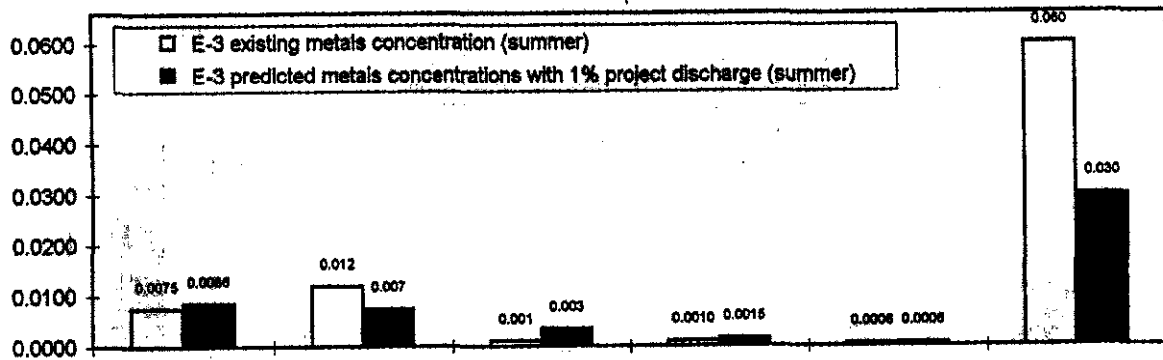
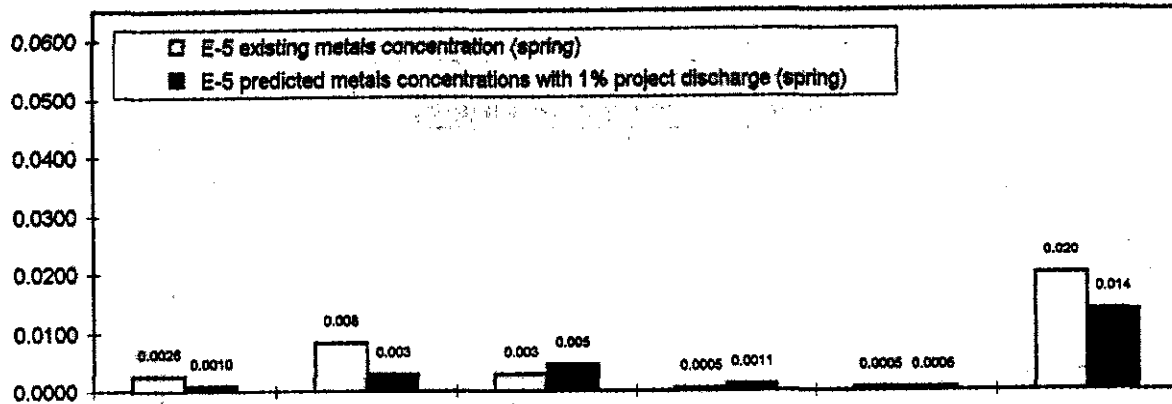
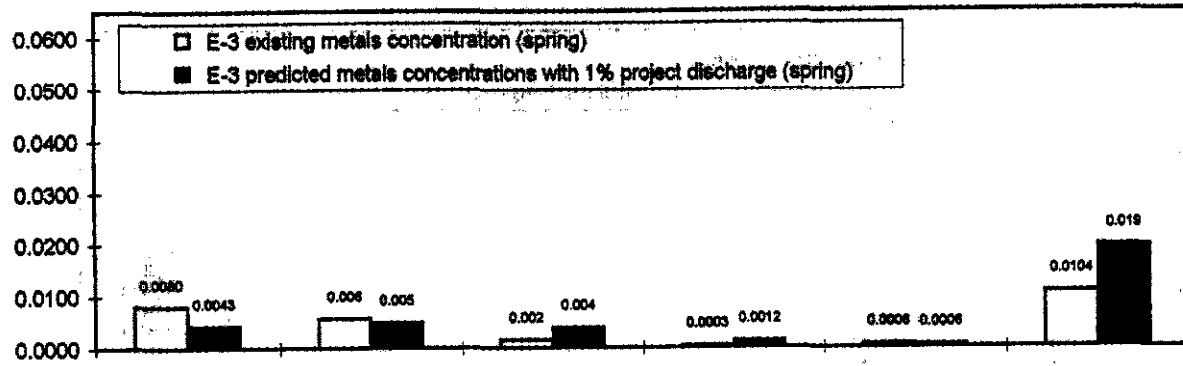


Figure 6-6. Predicted Versus Existing Metals Concentrations in Estero Americano
Dry Hydrology Year with Winter Irrigation - Bar Open
 (Concentrations shown above each bar in mg/L)

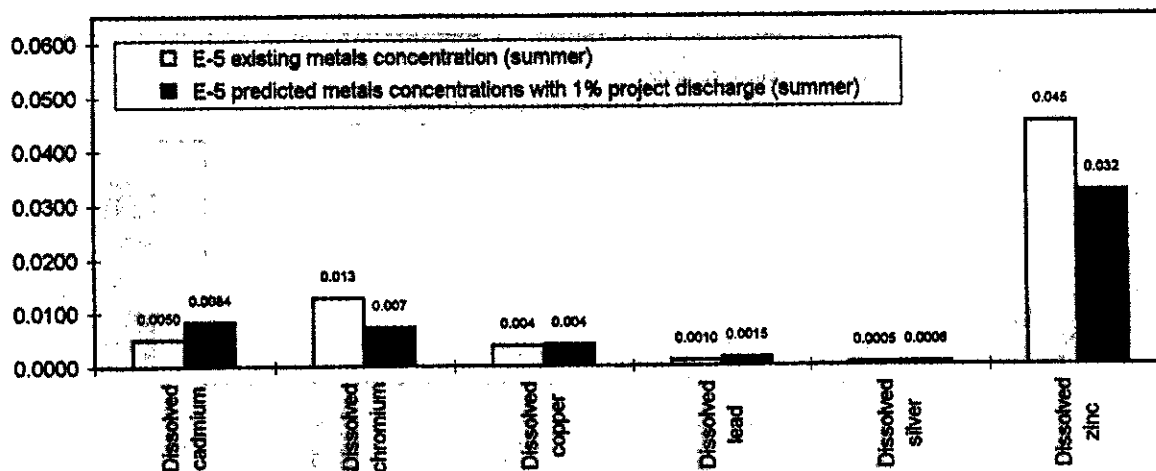
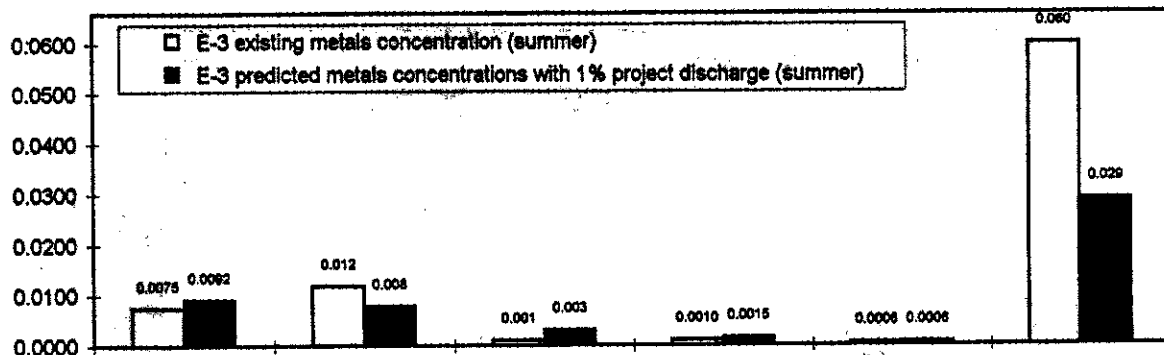
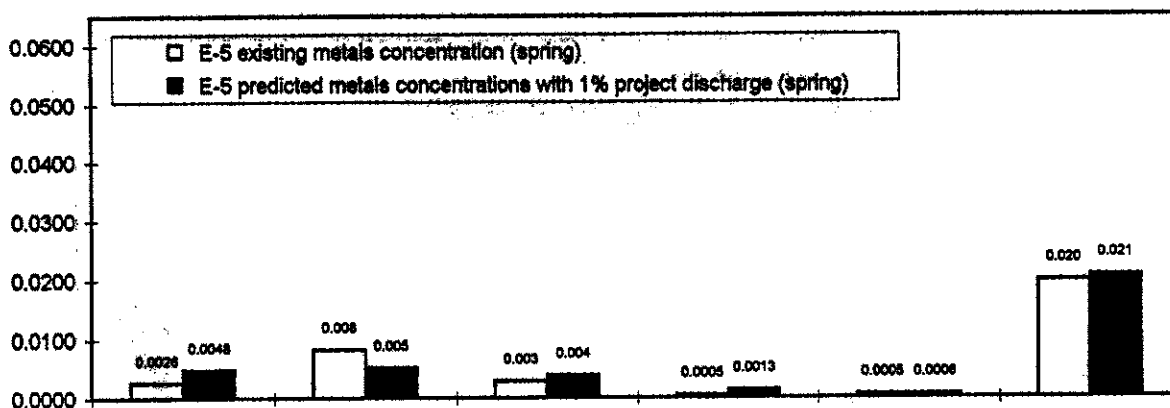
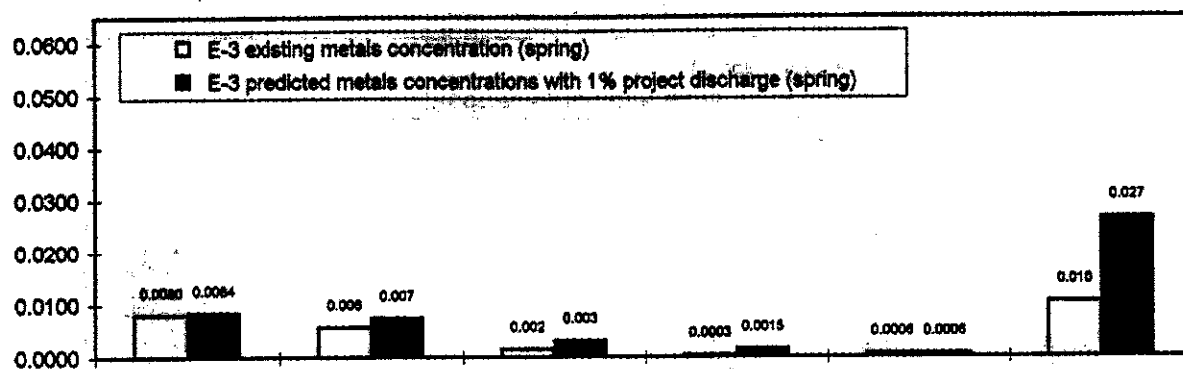


Figure 6-6. Predicted Versus Existing Metals Concentrations in Estero Americano
Dry Hydrology Year with Winter Irrigation - Bar Closed
 (Concentrations shown above each bar in mg/L)

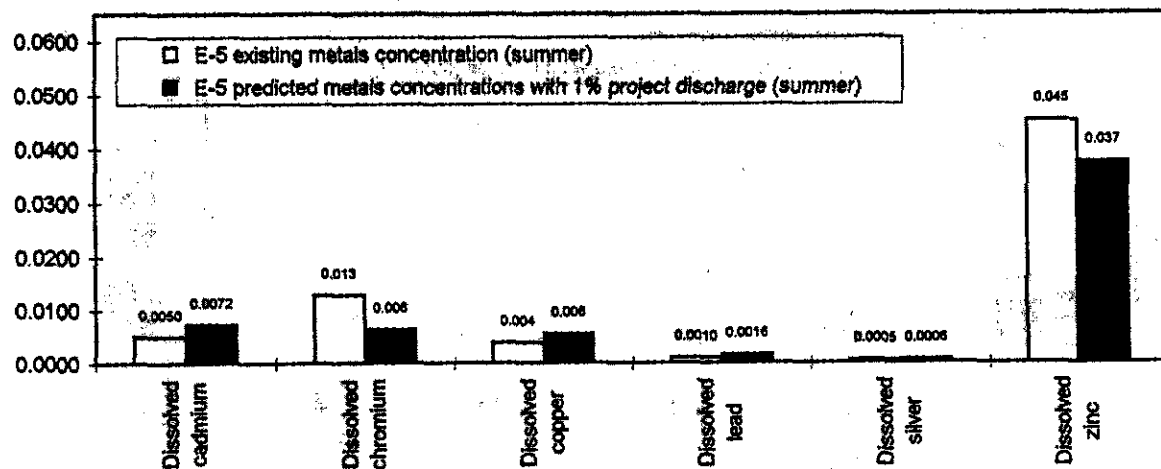
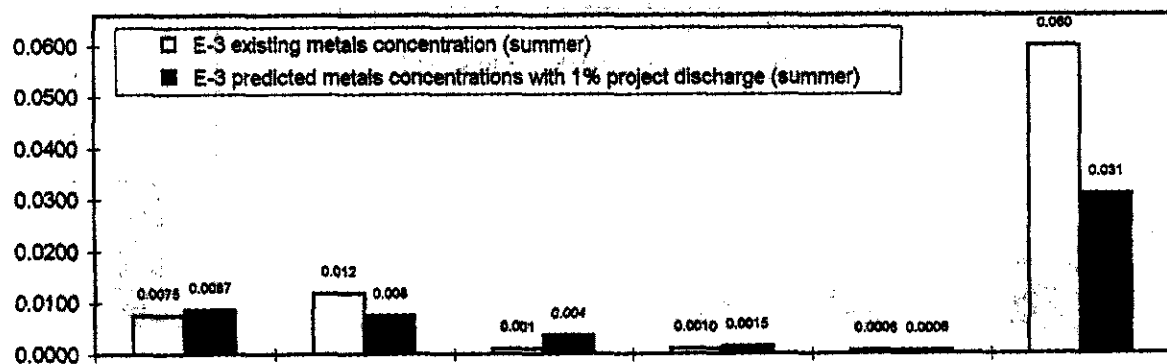
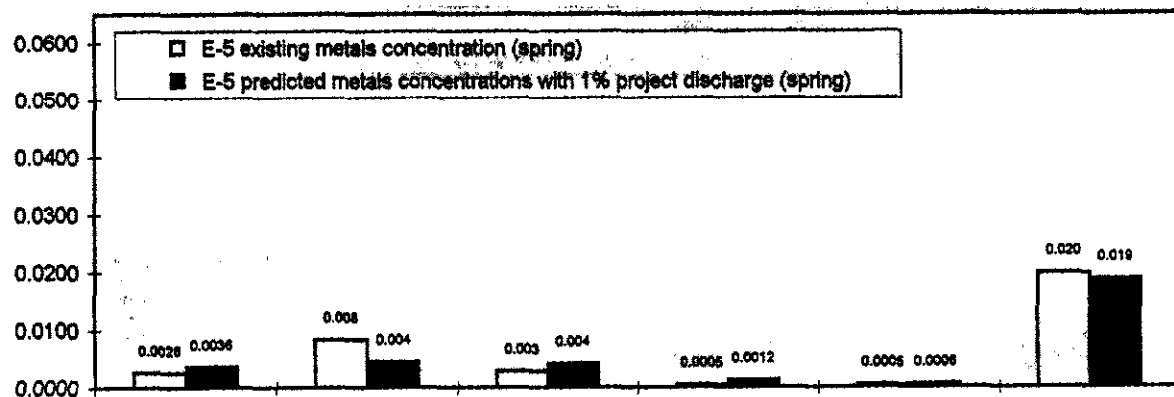
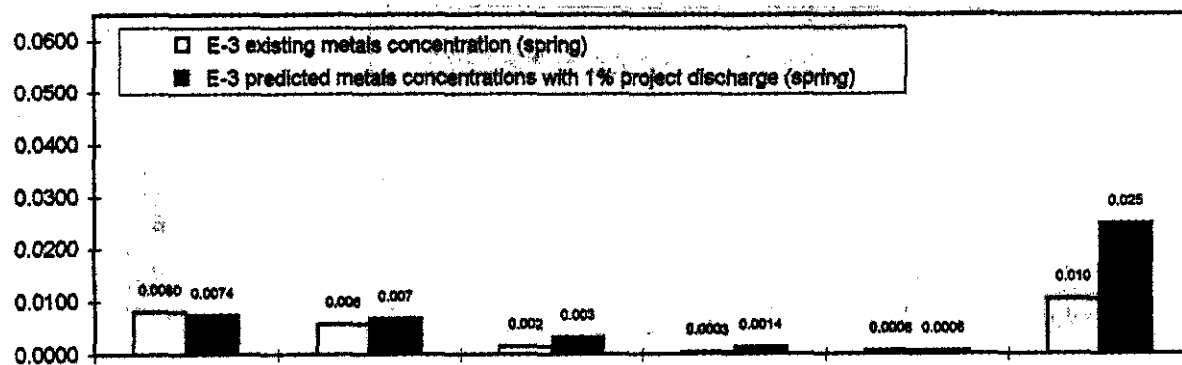


Figure 6-6. Predicted Versus Existing Metals Concentrations in Estero de San Antonio
Average Hydrology Year with Cool Summer Irrigation - Bar Open
 (Concentrations shown above each bar in mg/L)

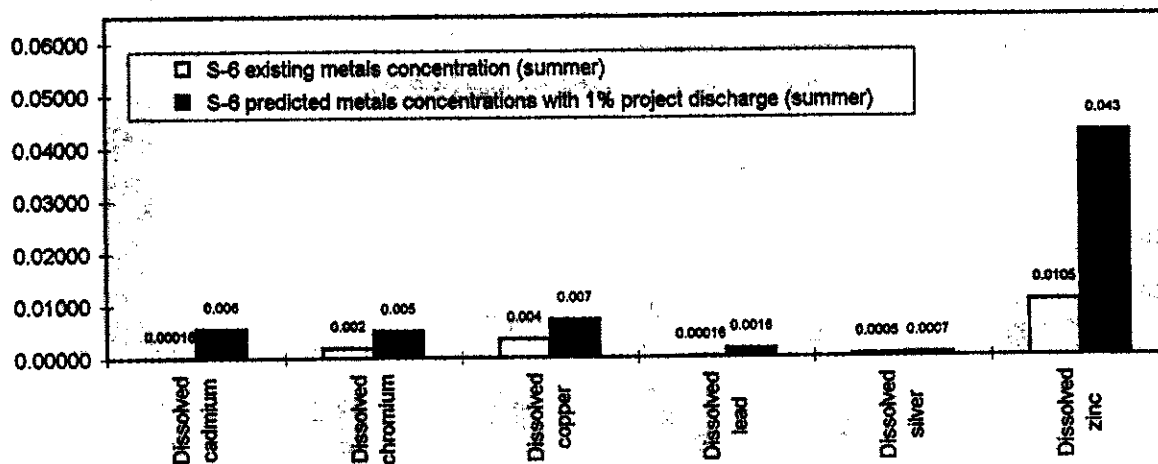
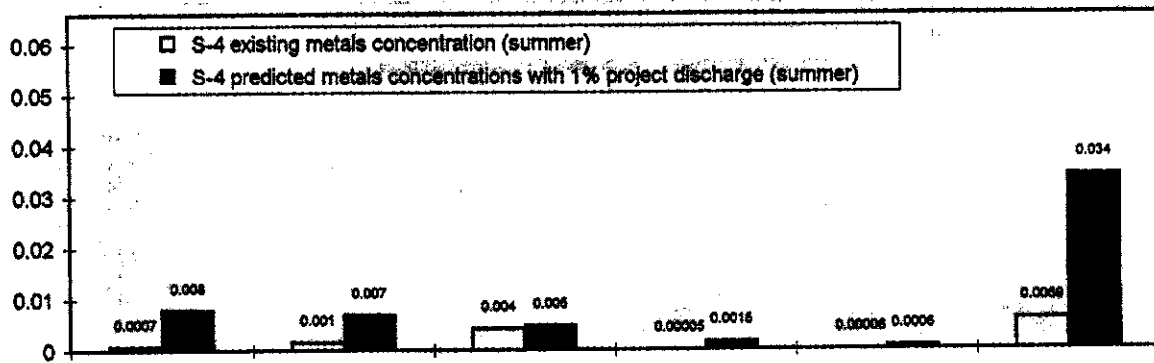
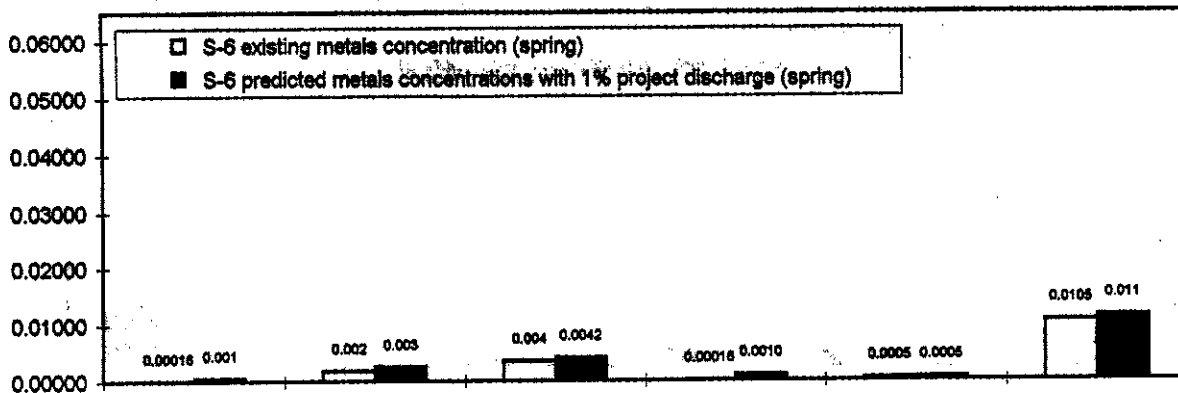
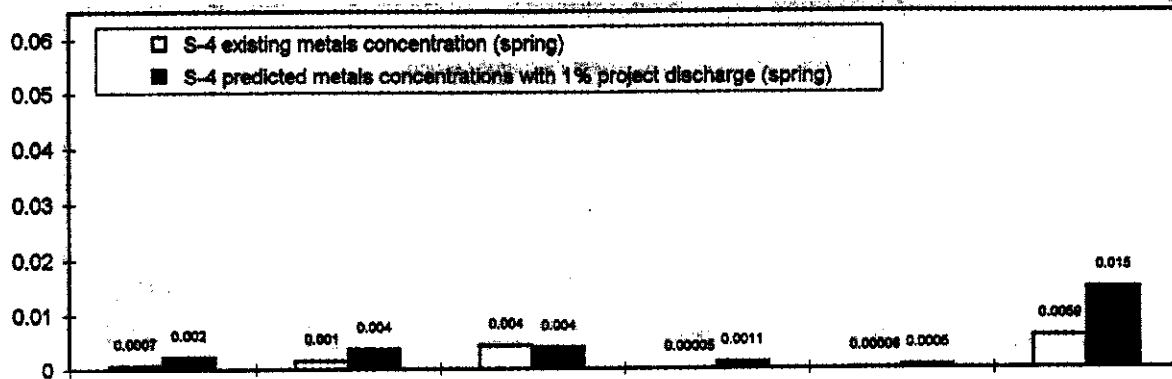


Figure 6-6. Predicted Versus Existing Metals Concentrations in Estero de San Antonio
Average Hydrology Year with Cool Summer Irrigation - Bar Closed
 (Concentrations shown above each bar in mg/L)

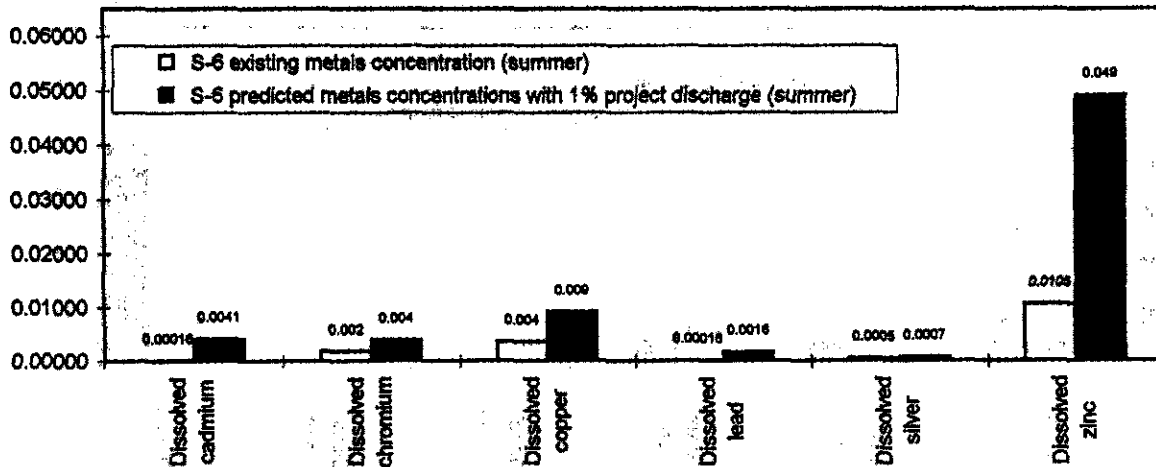
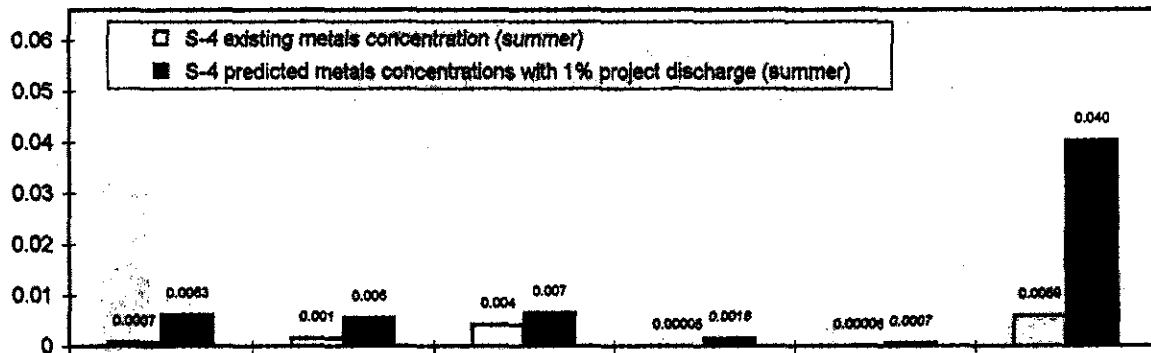
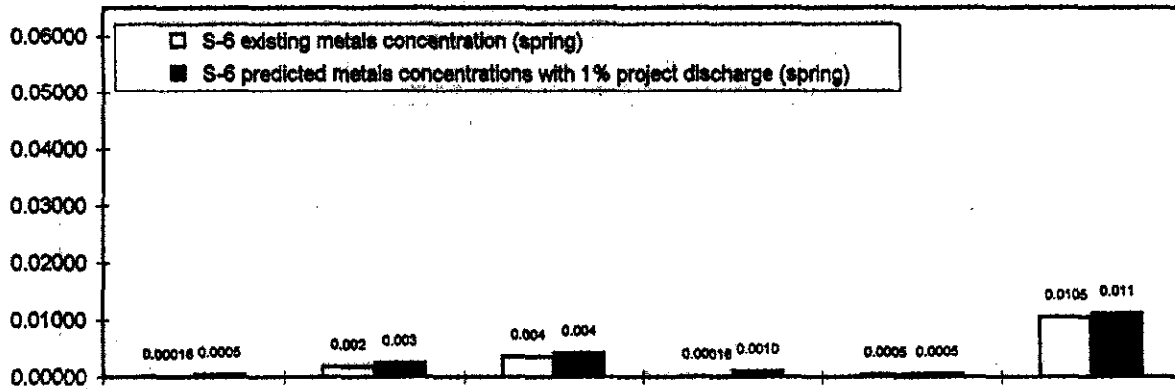
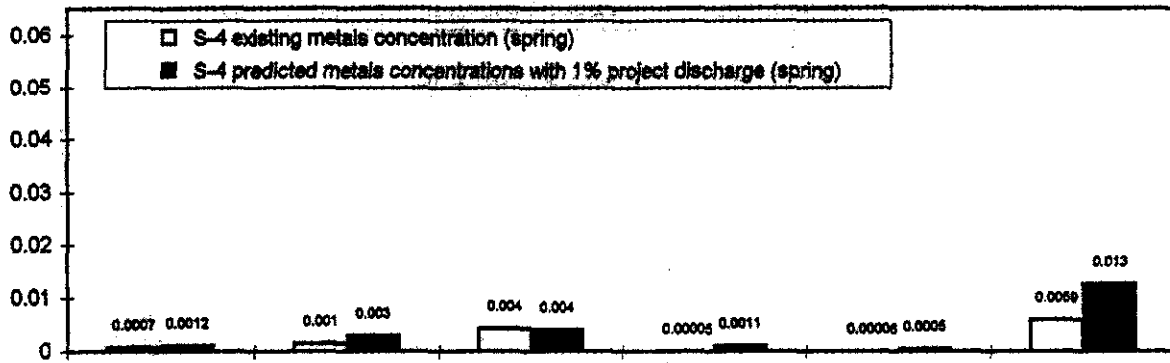


Figure 6-6. Predicted Versus Existing Metals Concentrations in Estero de San Antonio

Wet Year - Bar Open
(Concentrations shown above each bar in mg/L)

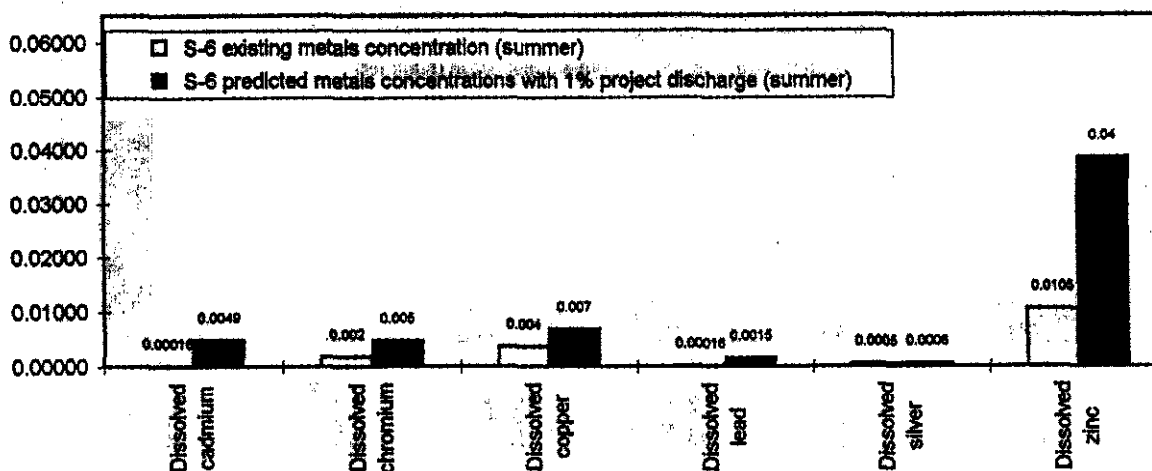
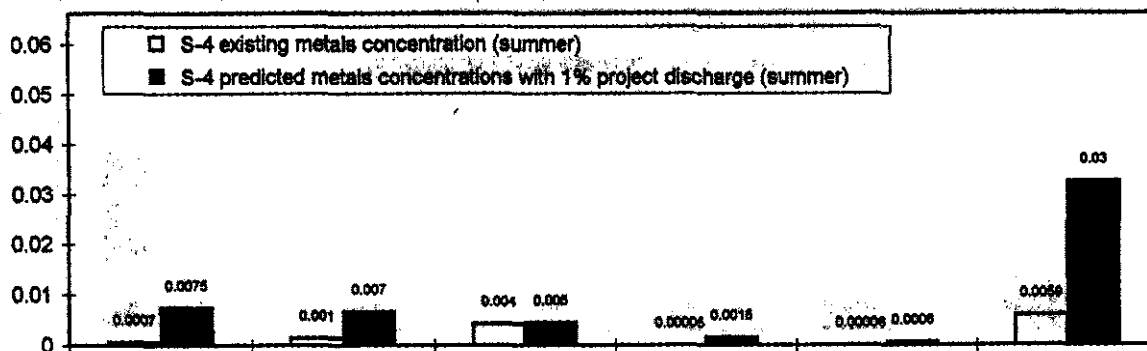
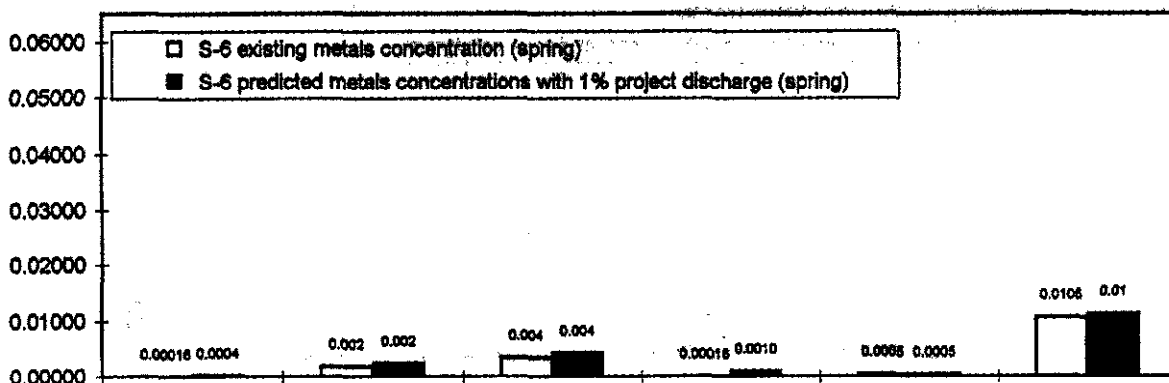
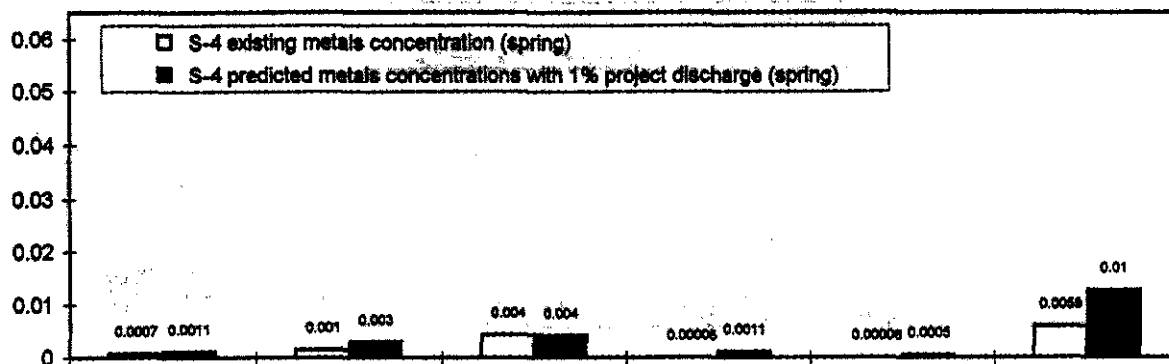


Figure 6-6. Predicted Versus Existing Metals Concentrations in Estero de San Antonio
Wet Year - Bar Closed
 (Concentrations shown above each bar in mg/L)

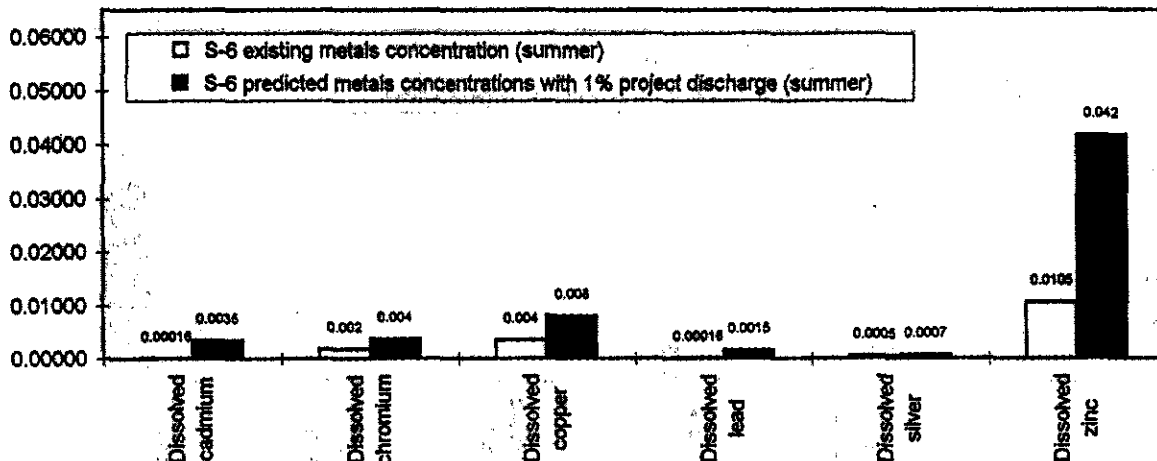
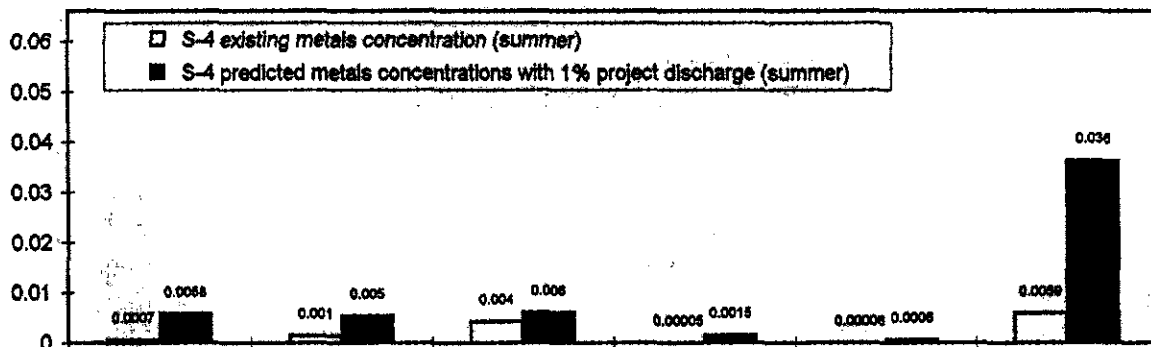
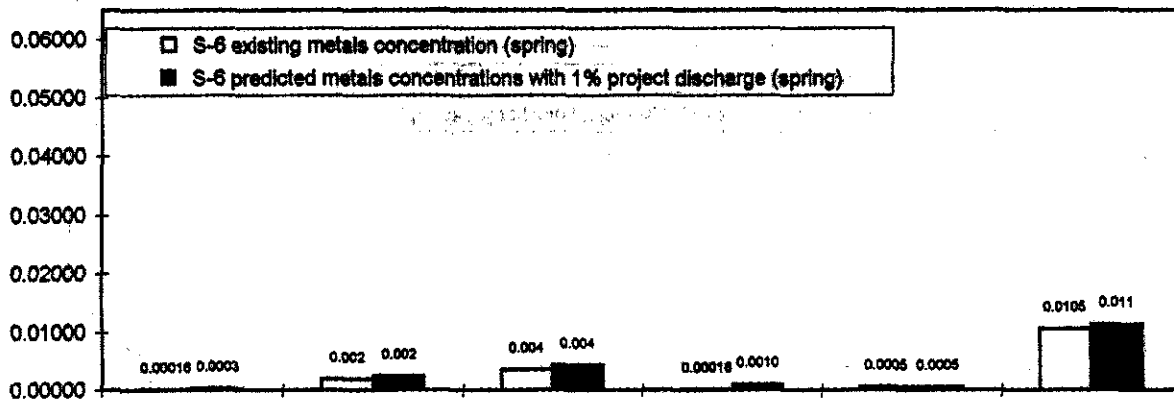
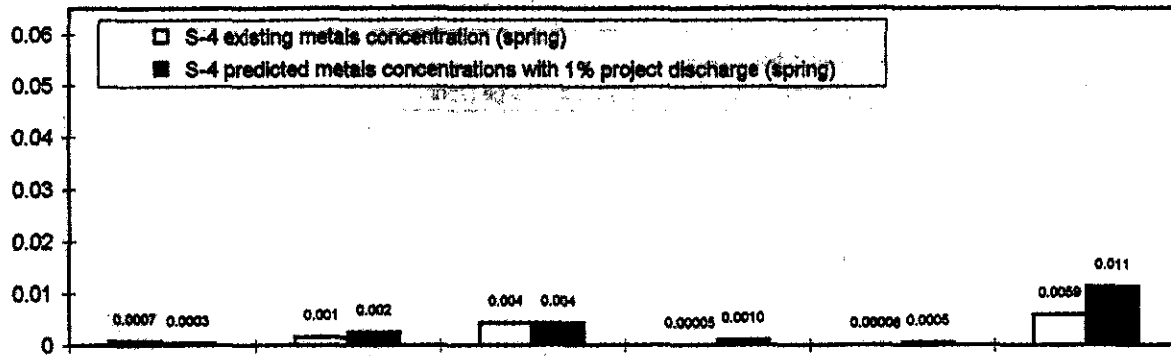


Figure 6-6. Predicted Versus Existing Metals Concentrations in Estero de San Antonio

Dry Hydrology Year with Winter Irrigation - Bar Open
(Concentrations shown above each bar in mg/L)

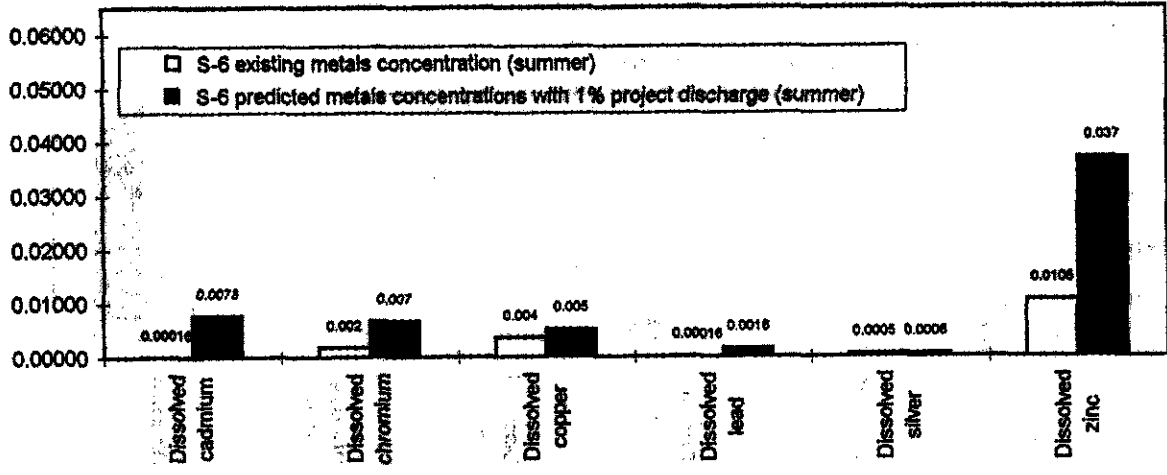
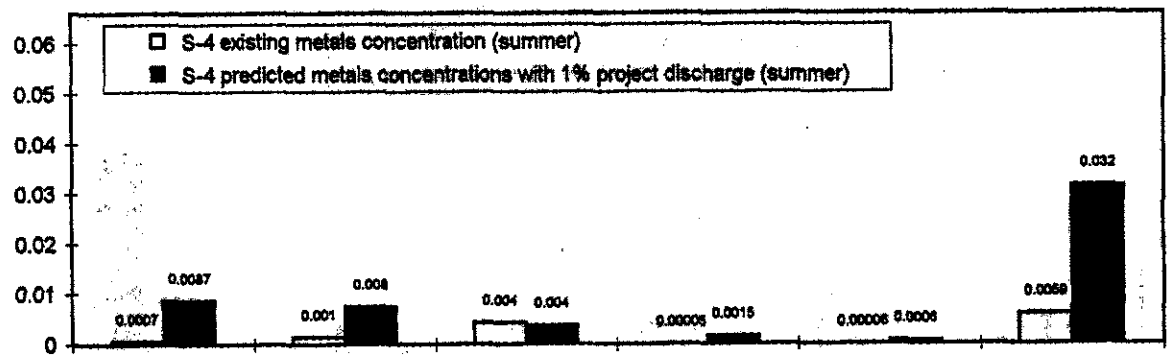
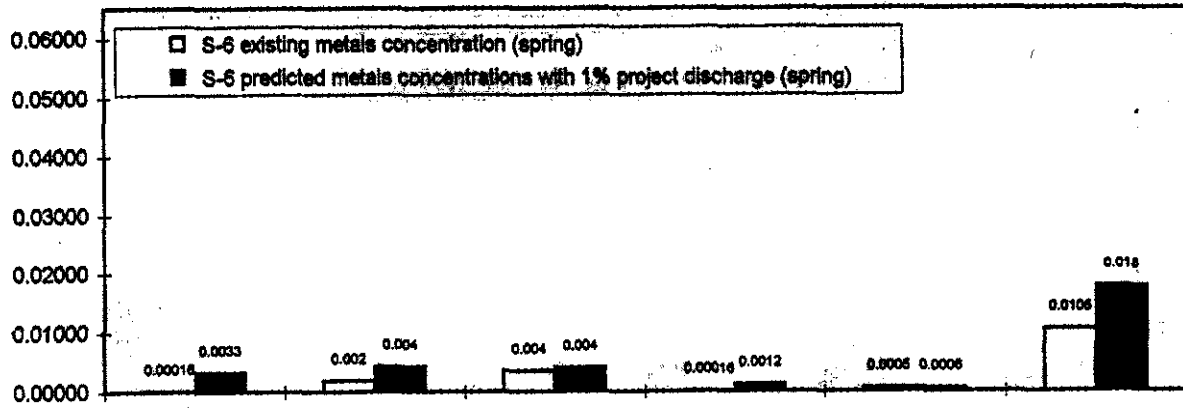
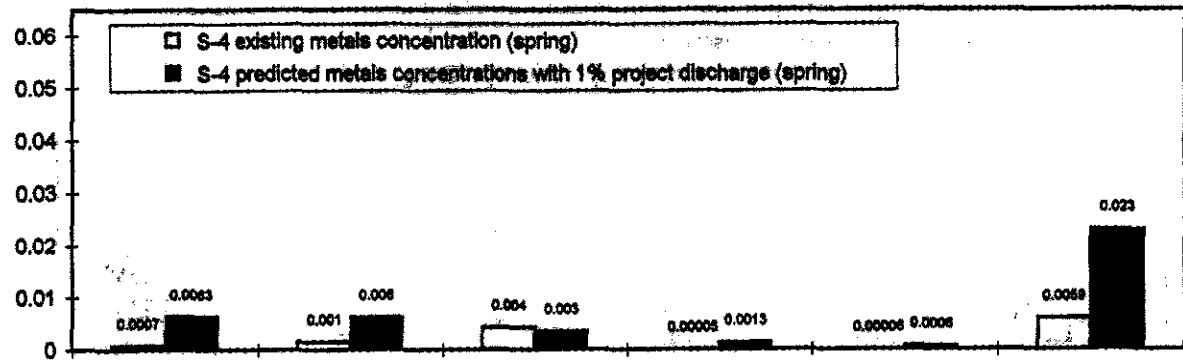


Figure 6-6. Predicted Versus Existing Metals Concentrations in Estero de San Antonio
Dry Hydrology Year with Winter Irrigation - Bar Closed
 (Concentrations shown above each bar in mg/L)

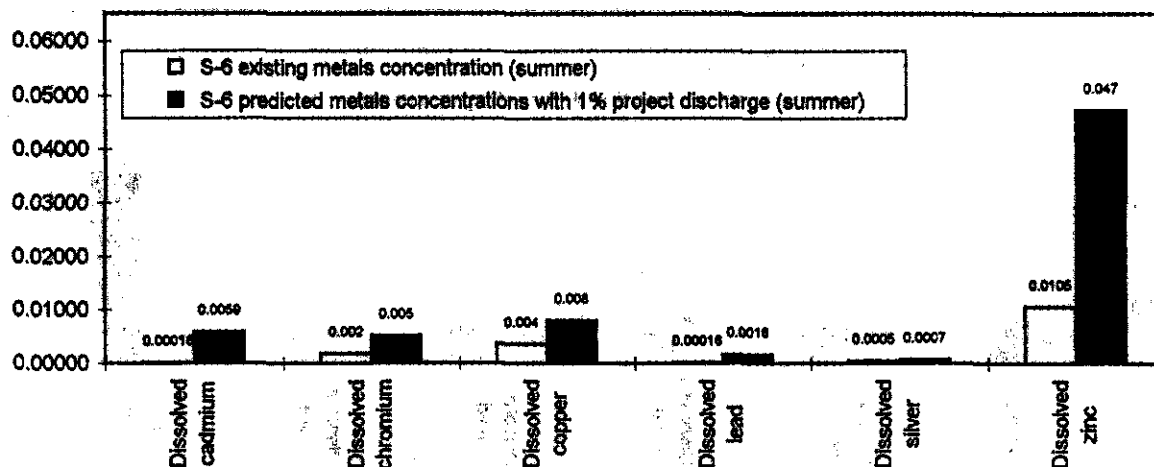
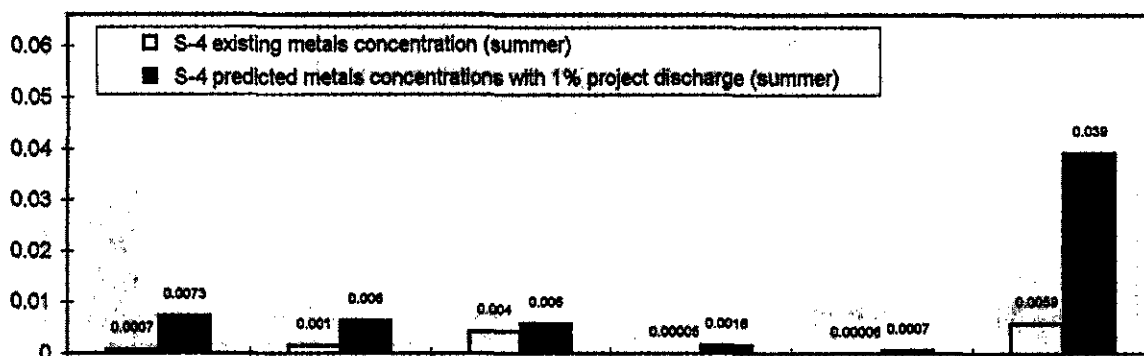
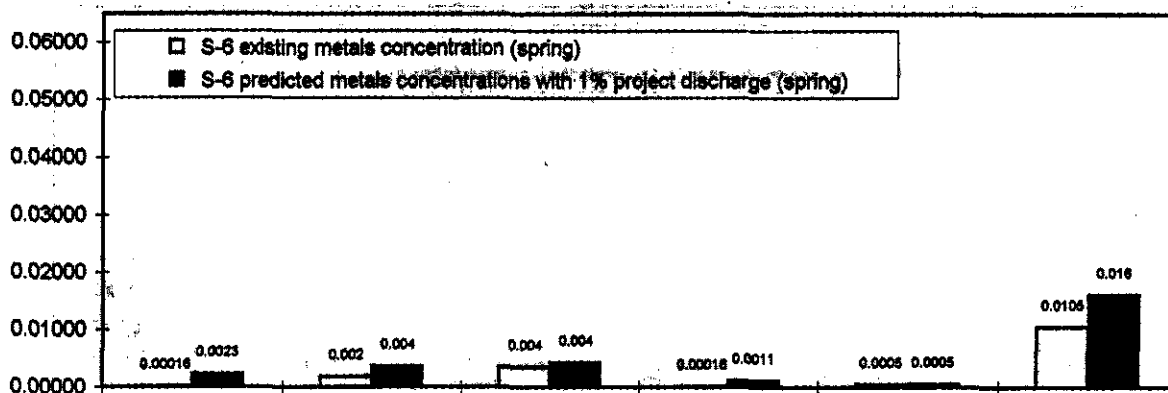
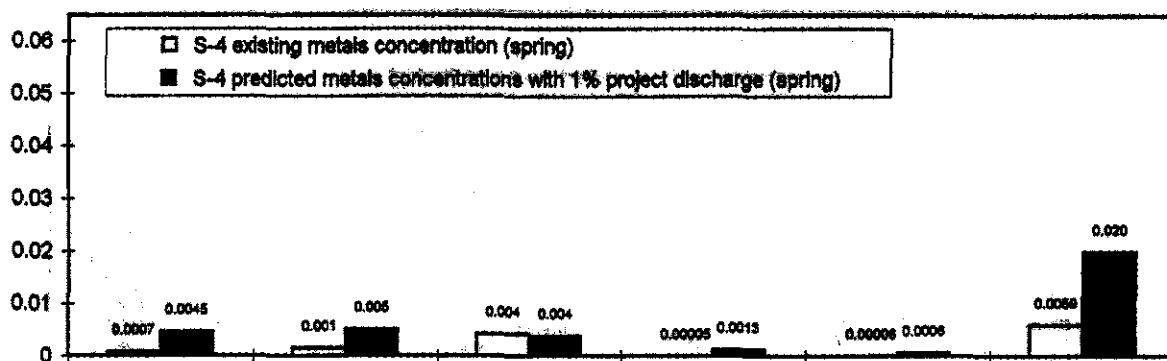


Figure 6-6. Predicted Versus Existing Metals Concentrations in Estero de San Antonio
Dry Hydrology Year with Winter Irrigation - Bar Closed
 (Concentrations shown above each bar in mg/L)

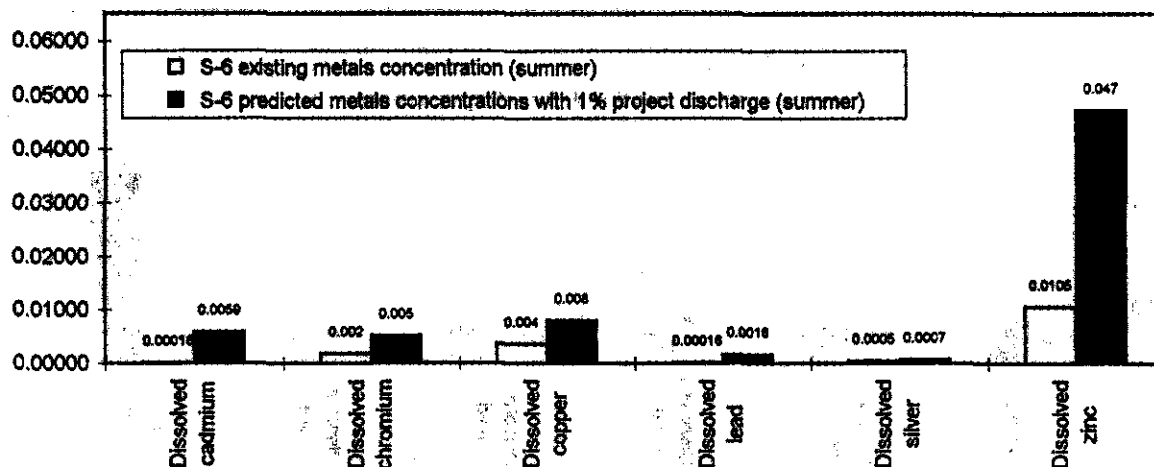
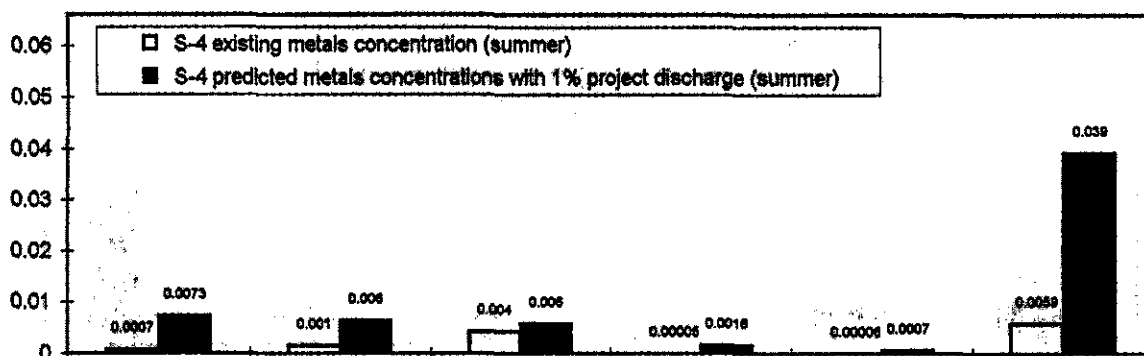
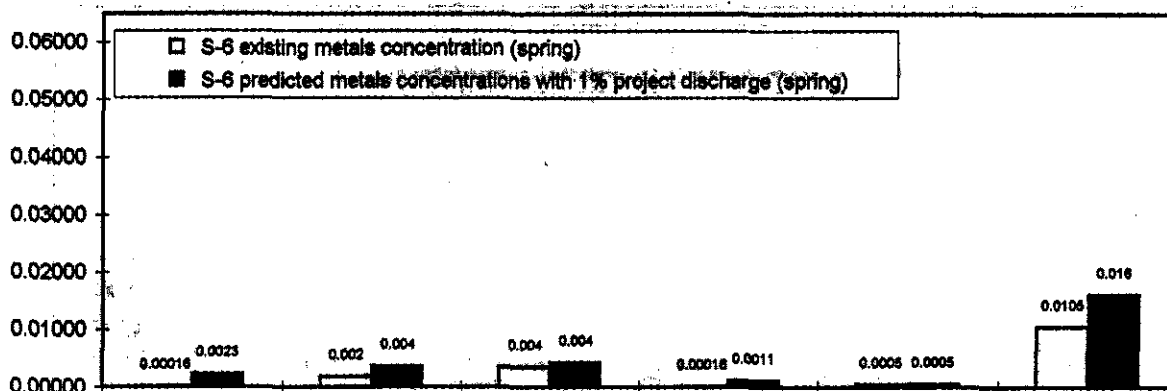
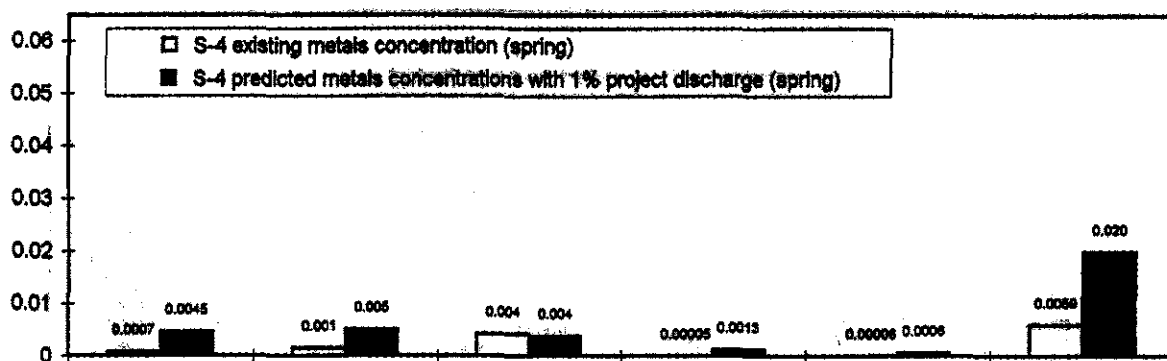
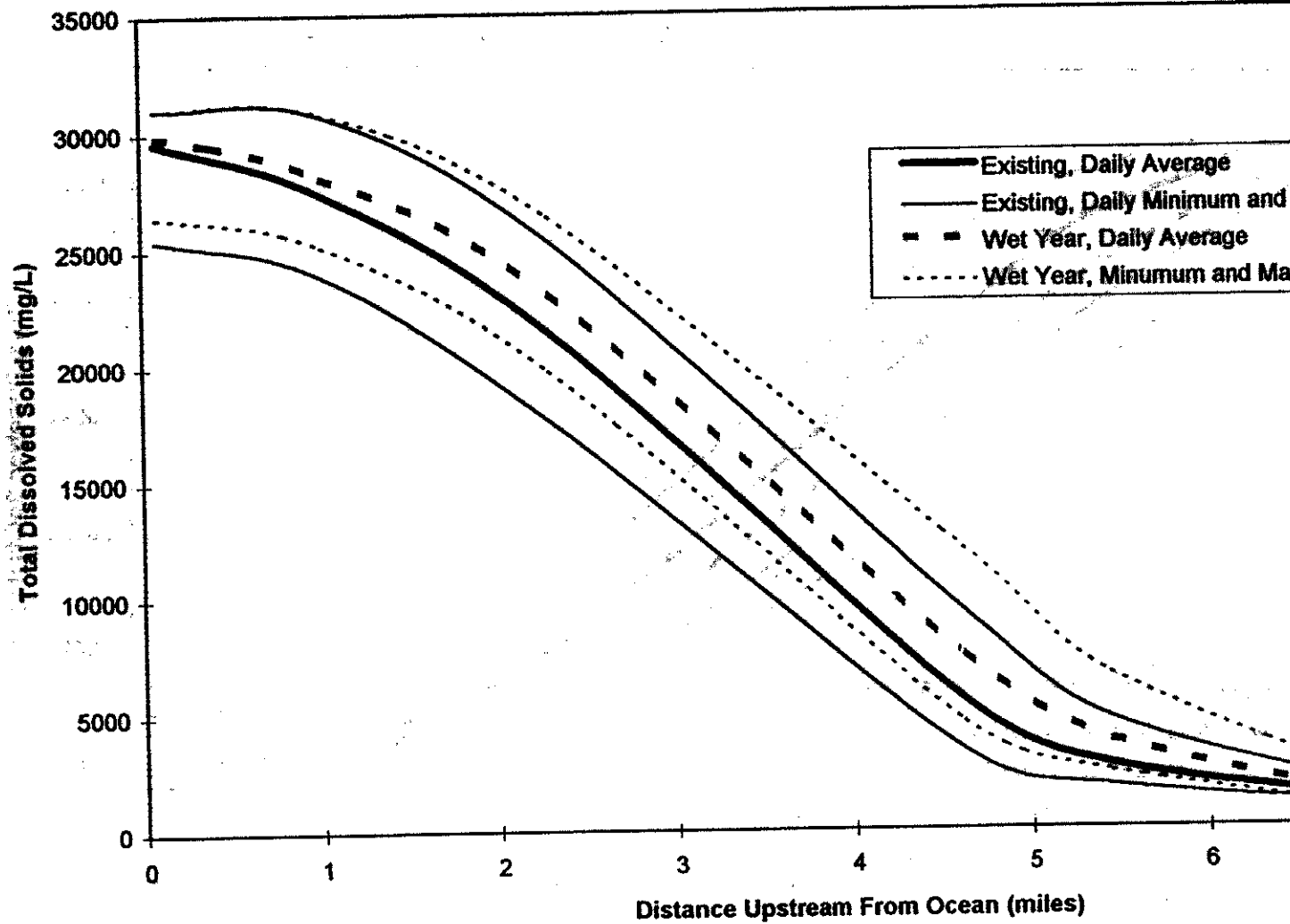
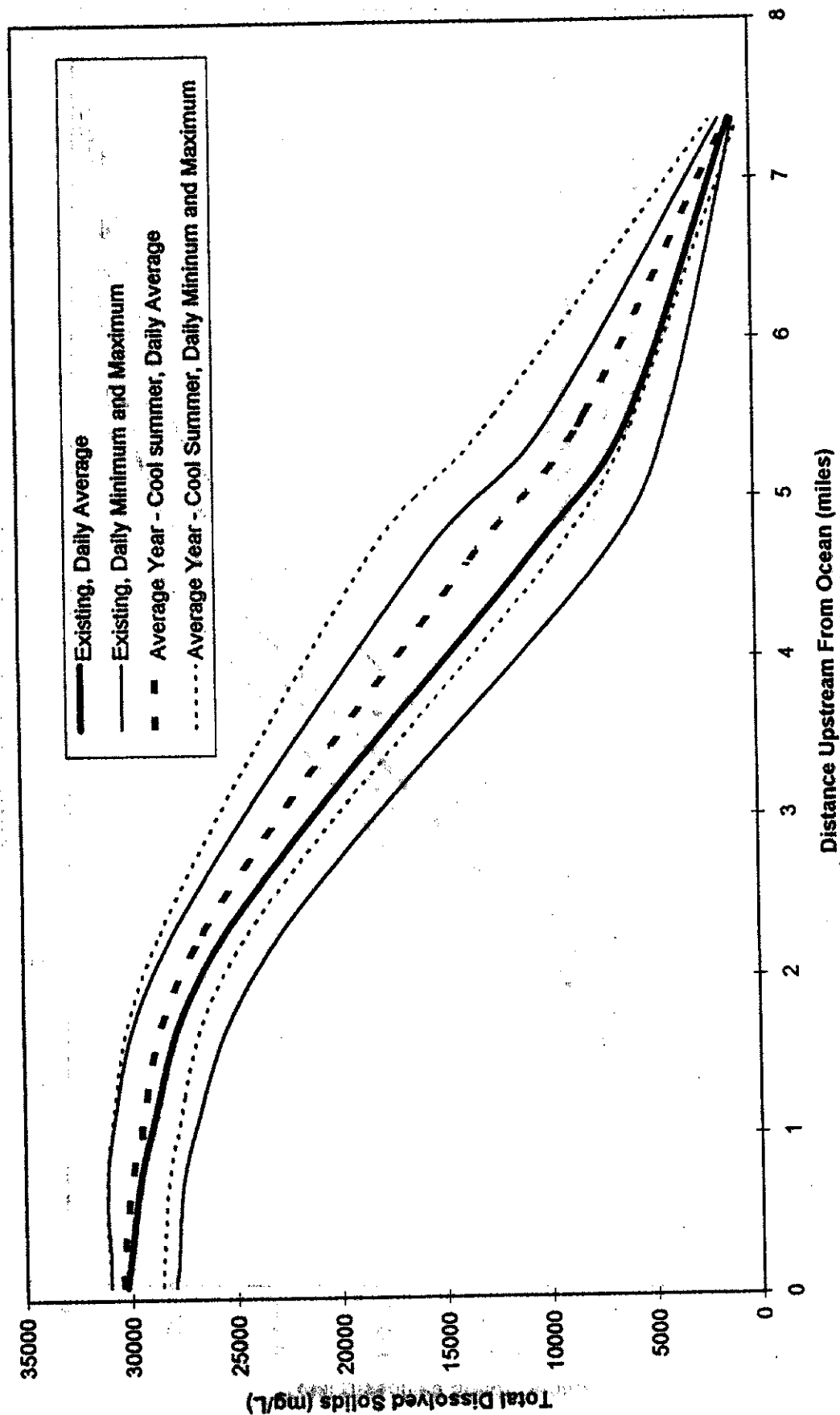


Chart9

**Figure 6-1.1. Irrigation and Storage Impacts on TDS In Estero Americano
Spring Inflow and Bar-Open Conditions**



**Figure 6-1.2. Irrigation and Storage Impacts on TDS In Estero Americano
Spring Inflow and Bar-Open Conditions**



**Figure 6-1.3. Irrigation and Storage Impacts on TDS In Estero Americano
Spring Inflow and Bar-Open Conditions**

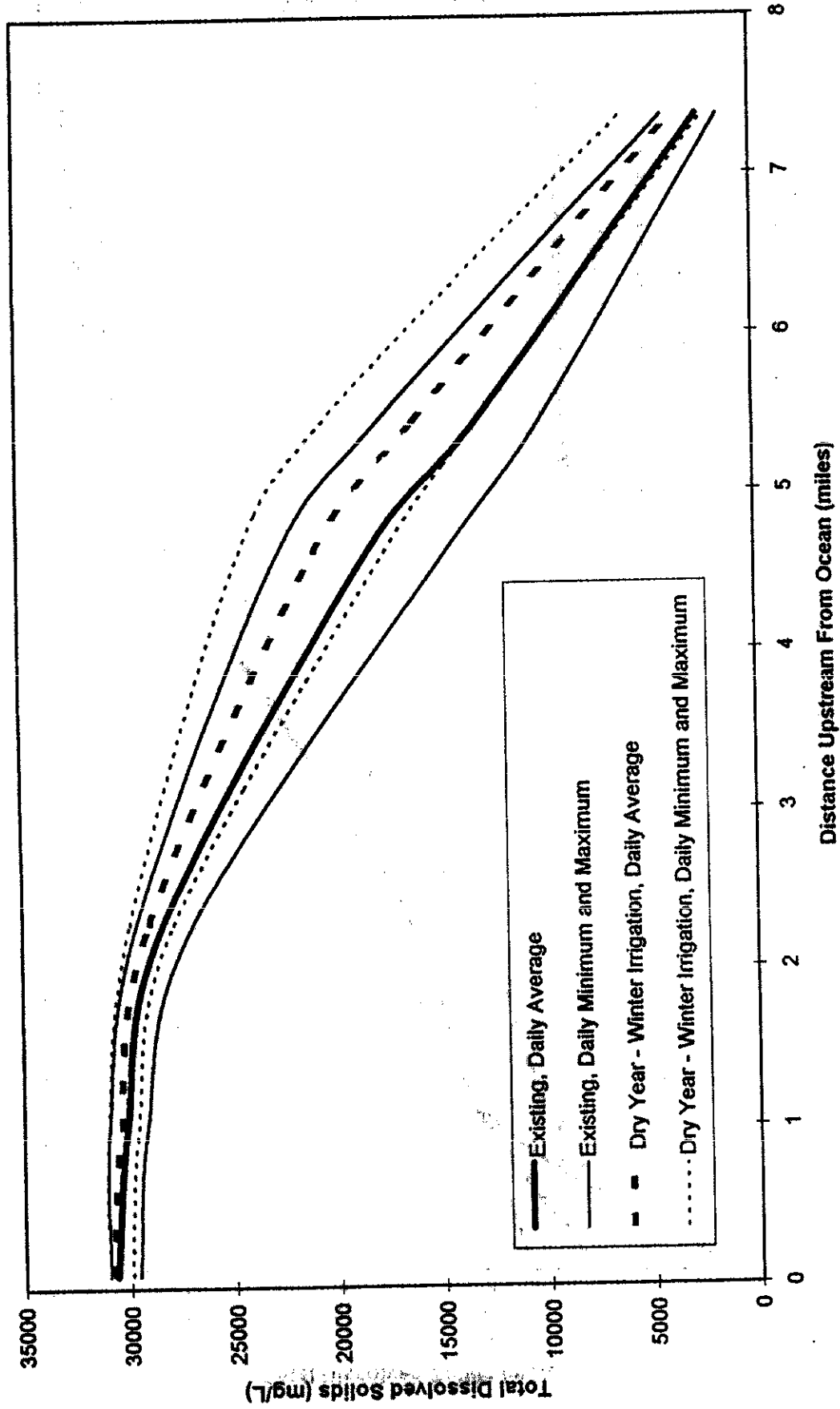
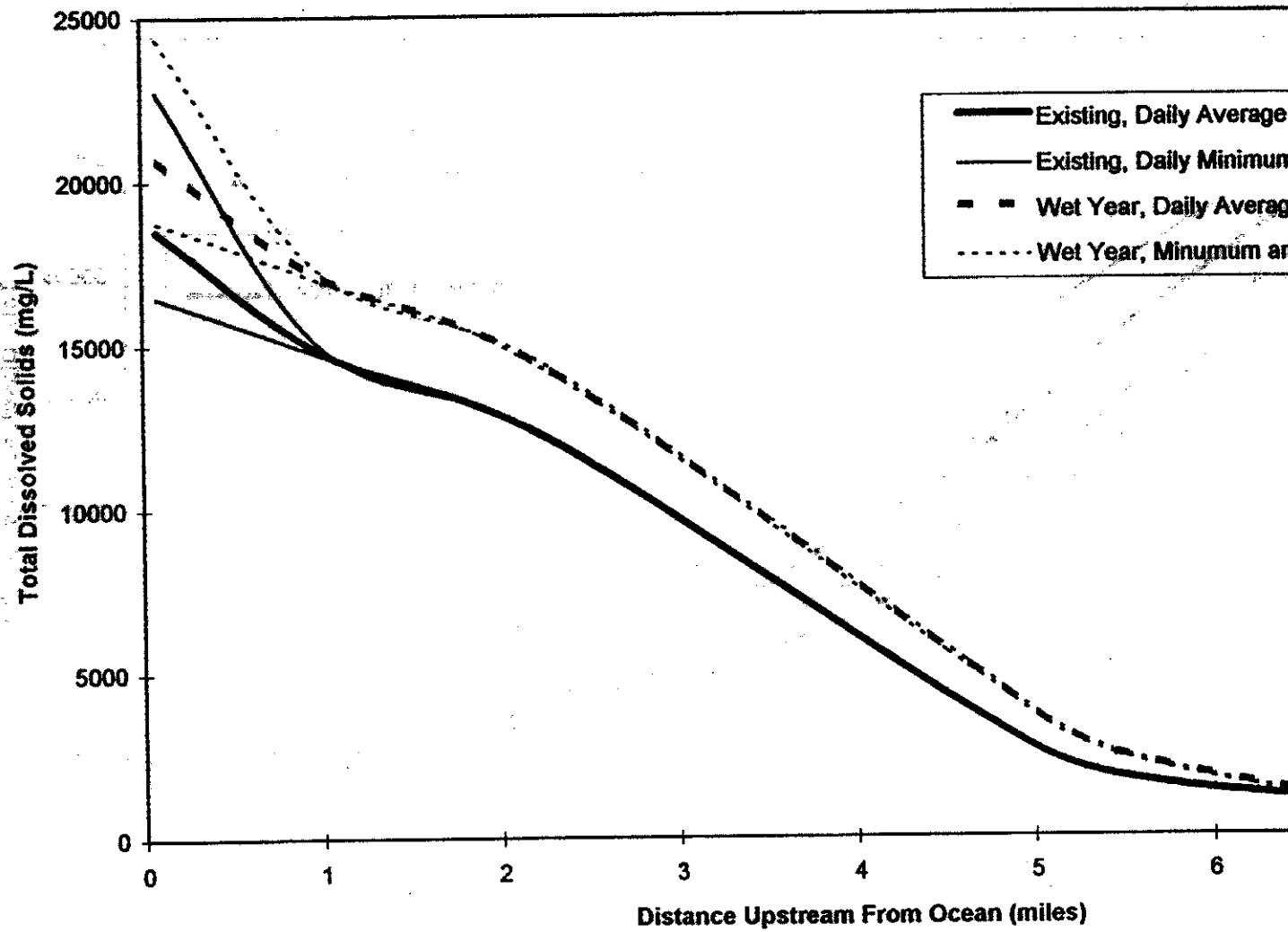


Chart5

**Figure 6-1.4. Irrigation and Storage Impacts on TDS In Estero Americano
Spring Inflow and Bar-Closed Conditions**



**Figure 6-1.5. Irrigation and Storage Impacts on TDS In Estero Americano
Spring Inflow and Bar-Closed Conditions**

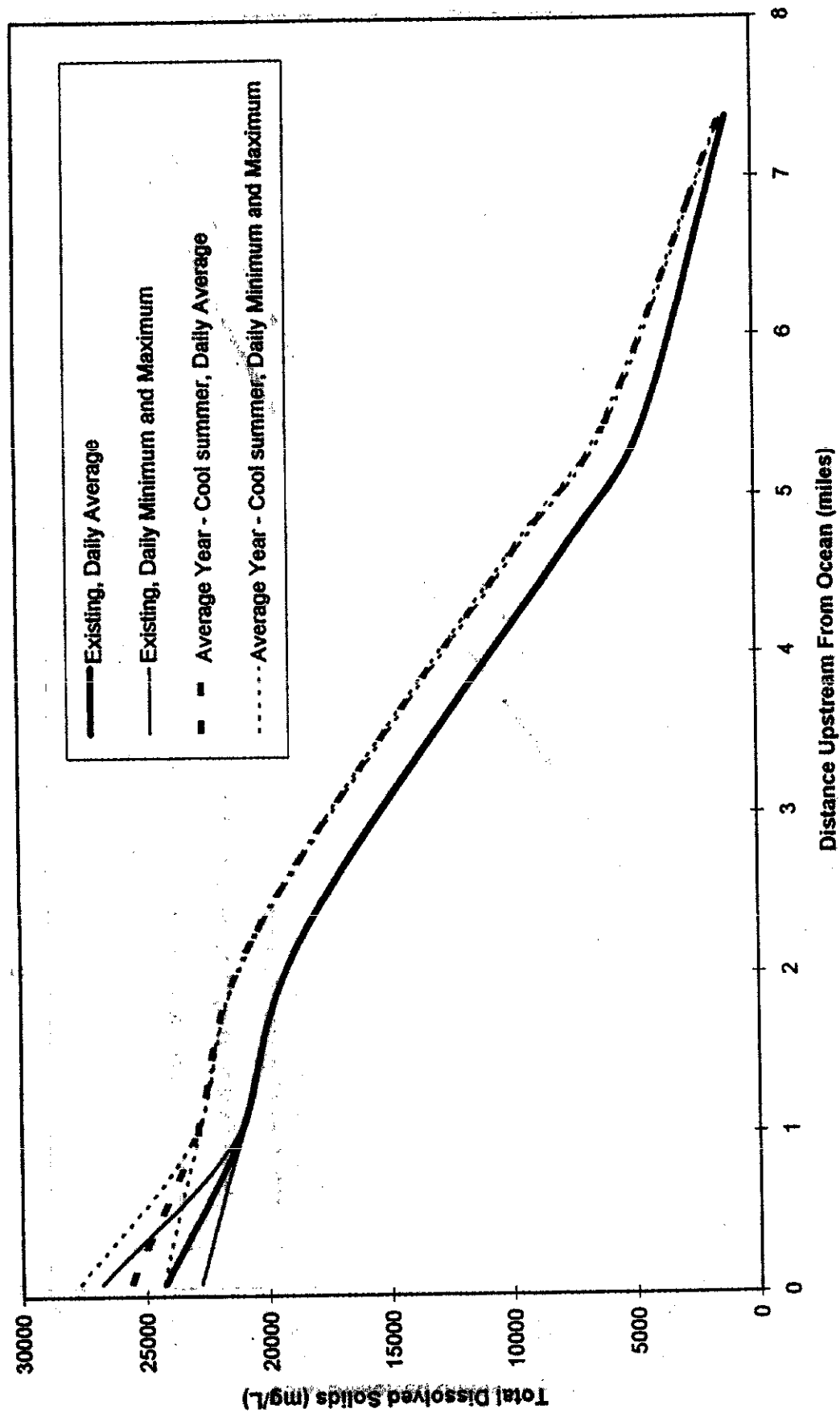
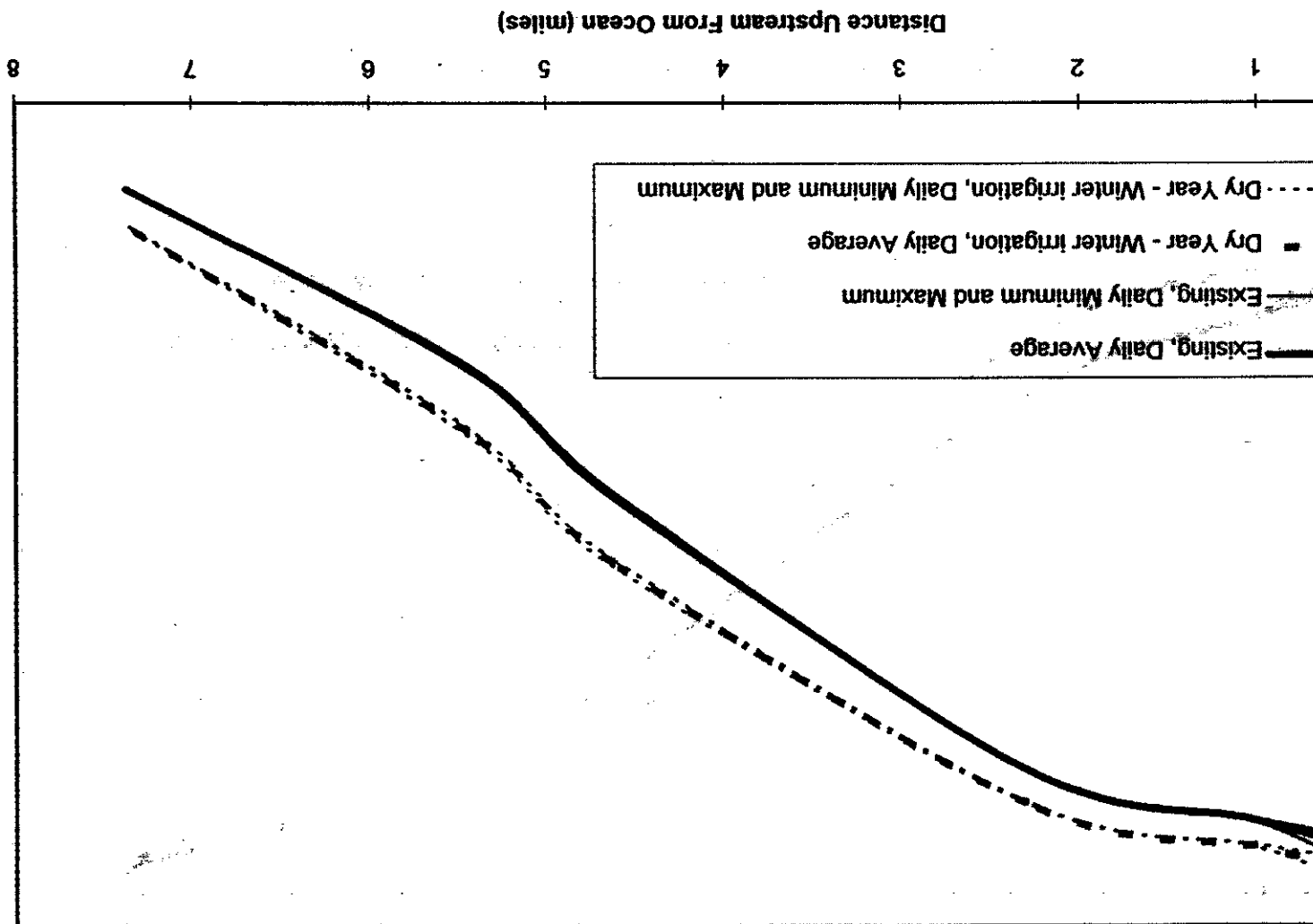


Figure 6-1.6. Irrigation and Storage Impacts on TDS in Estero Americano
Spring Inflow and Bar-Closed Conditions



**Figure 6-1.7. Irrigation and Storage Impacts on TDS In Estero Americano
Summer Inflow and Bar-Open Conditions**

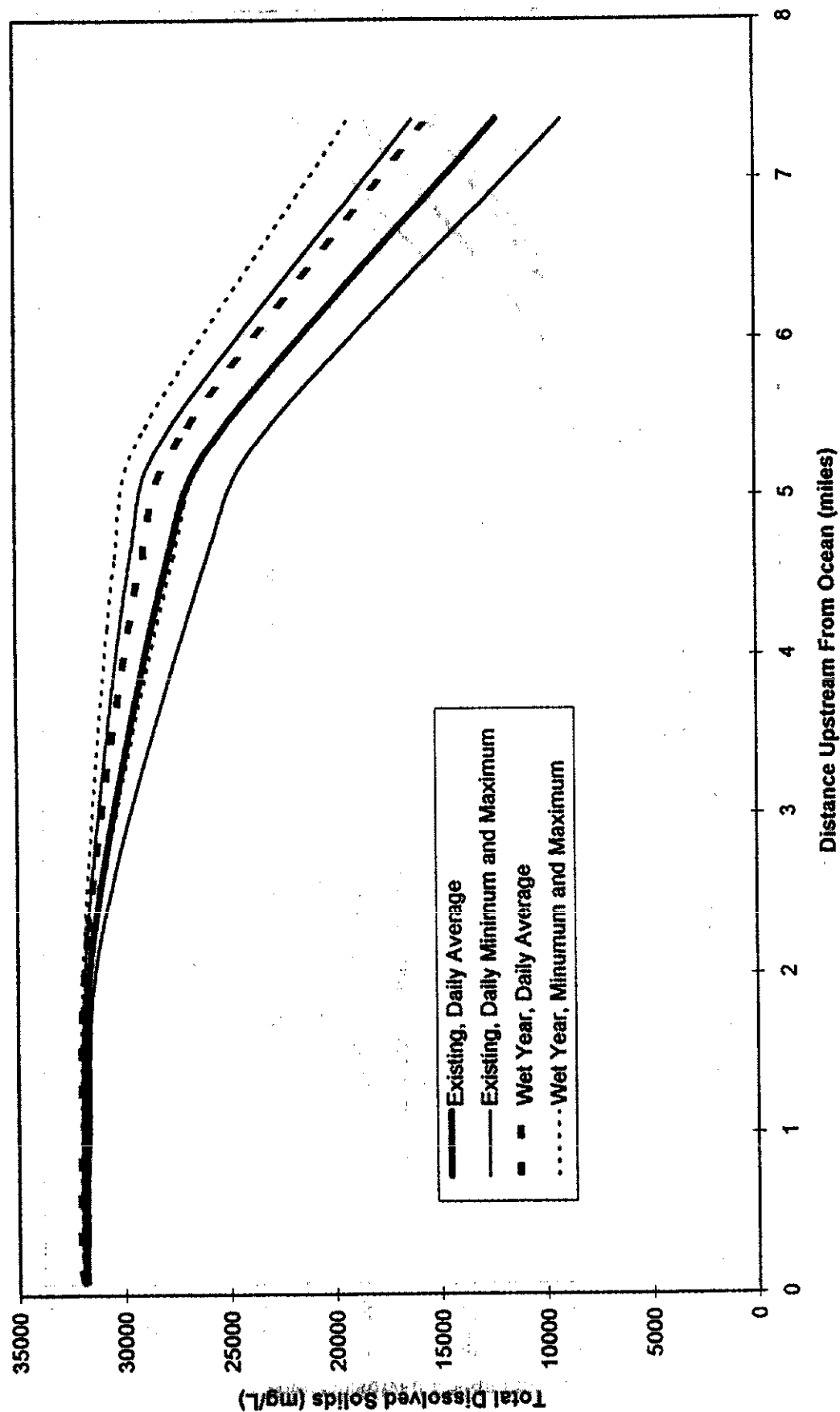


Chart6

**Figure 6-1.8. Irrigation and Storage Impacts on TDS In Estero Americano
Summer Inflow and Bar-Open Conditions**

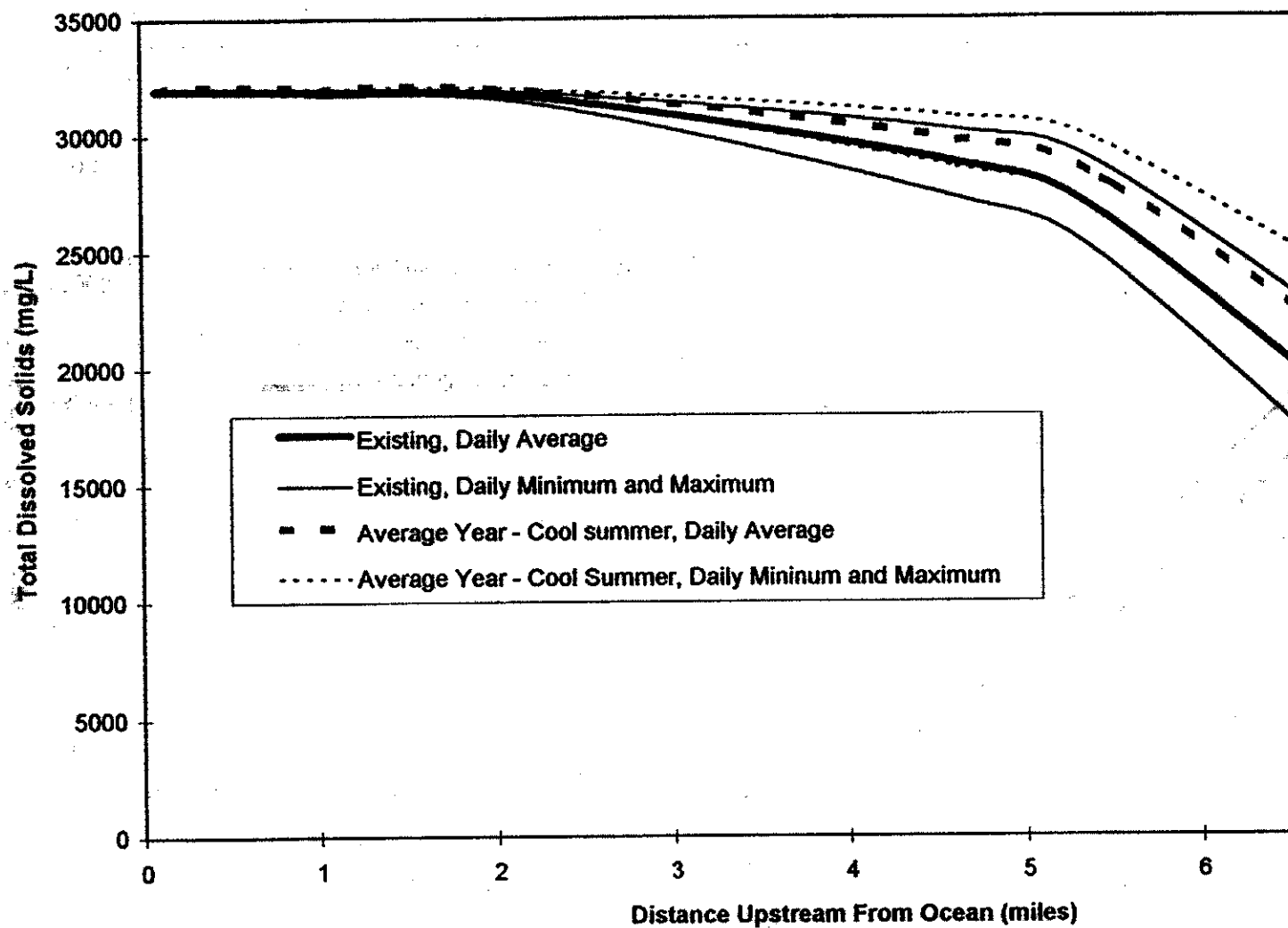


Chart8

**Figure 6-1.9. Irrigation and Storage Impacts on TDS In Estero Americano
Summer Inflow and Bar-Open Conditions**

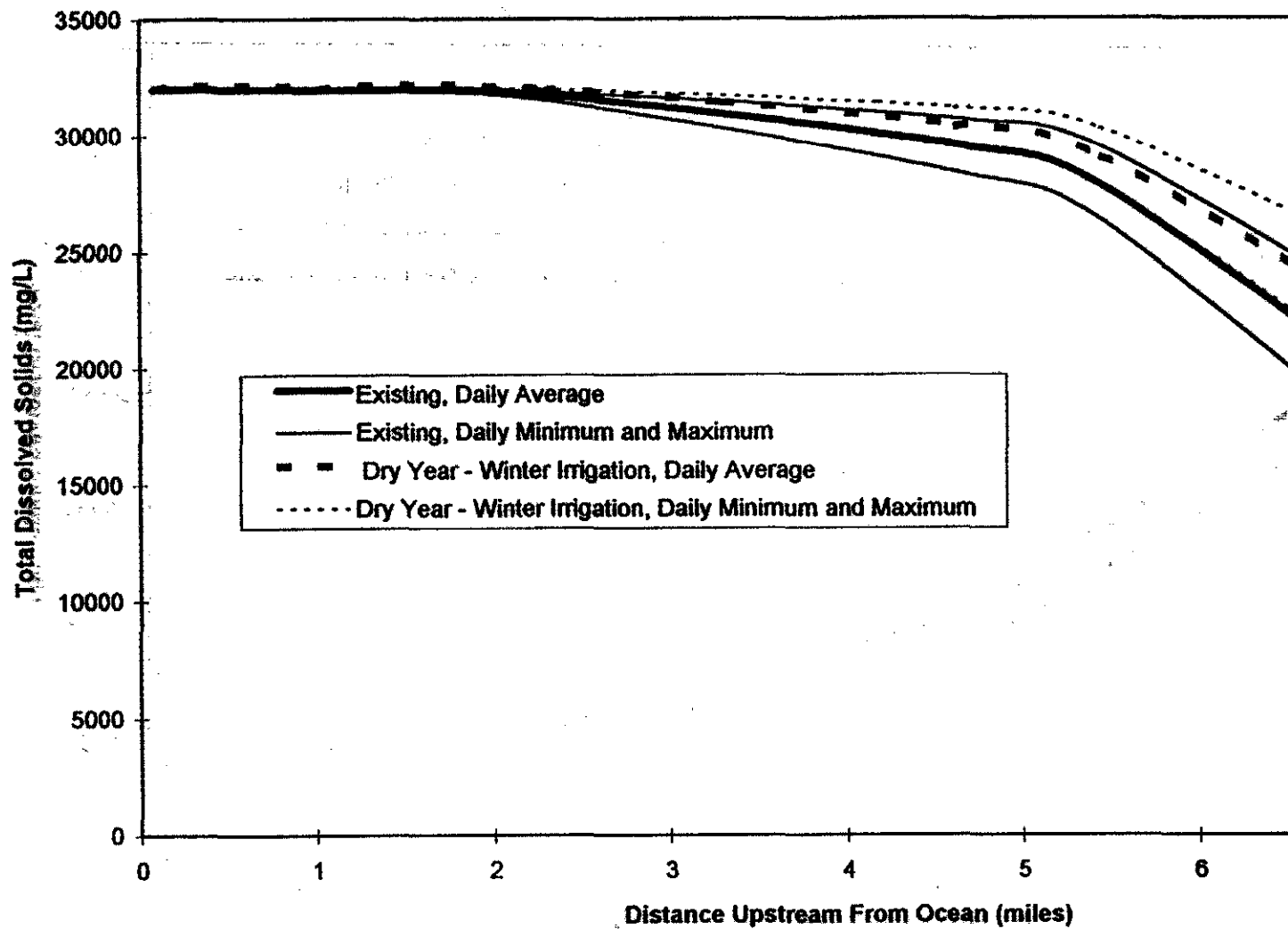


Chart6

**Figure 6-1.10. Irrigation and Storage Impacts on TDS in Estero Americano
Summer Inflow and Bar-Closed Conditions**

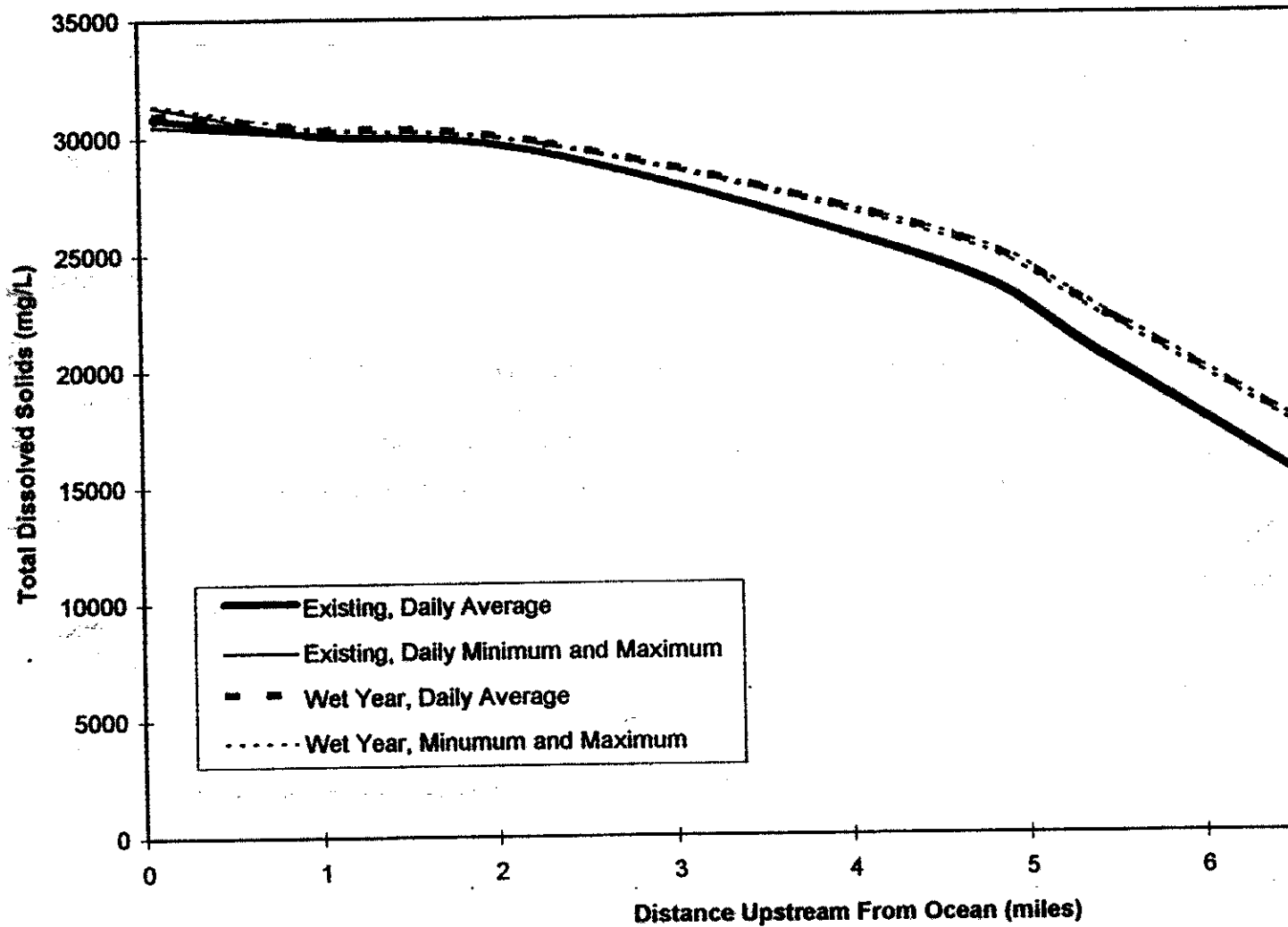


Chart2

**Figure 6-1.11. Irrigation and Storage Impacts on TDS In Estero Americano
Summer Inflow and Bar-Closed Conditions**

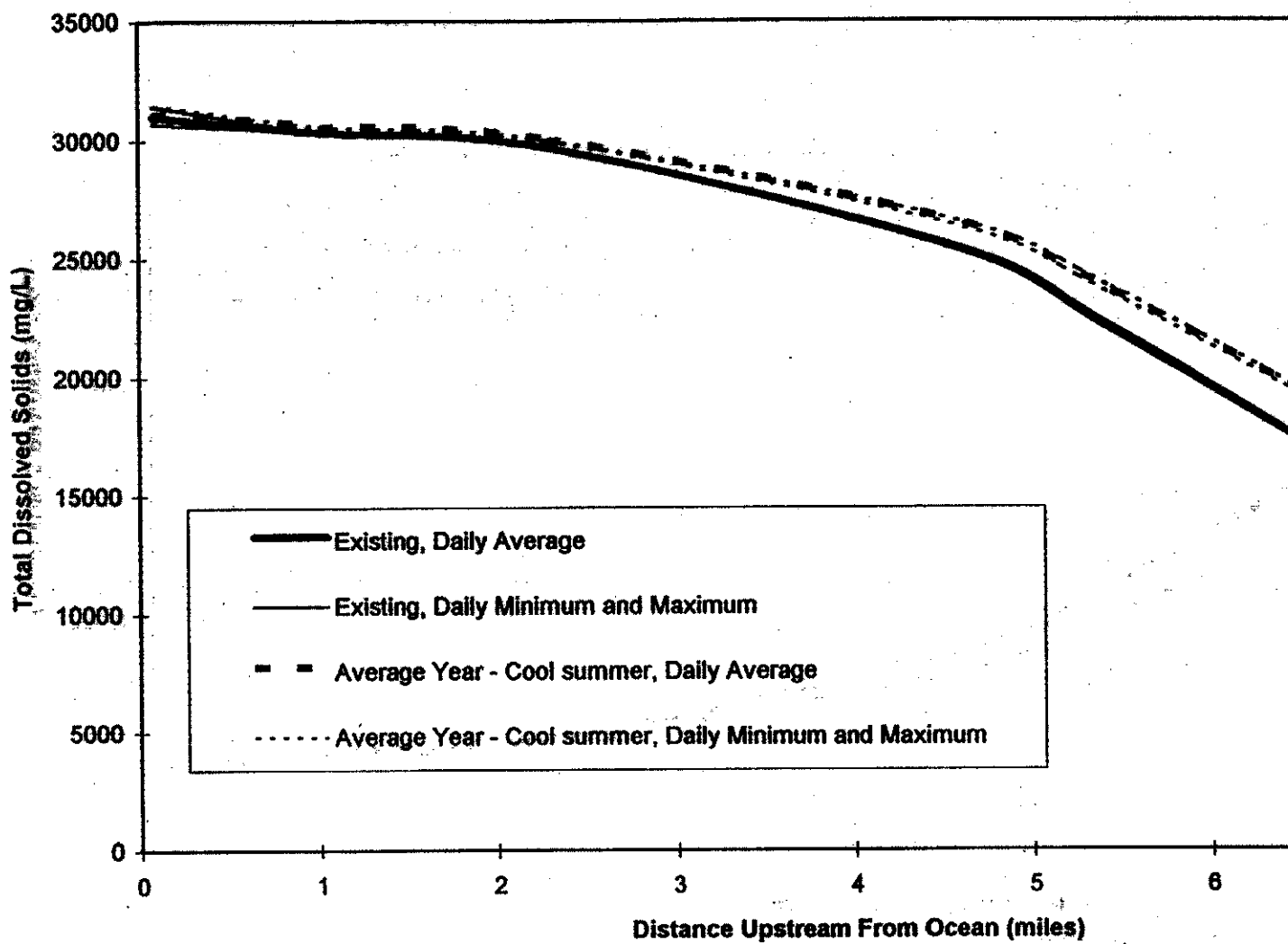


Chart4

**Figure 6-1.12. Irrigation and Storage Impacts on TDS in Estero American
Summer Inflow and Bar-Closed Conditions**

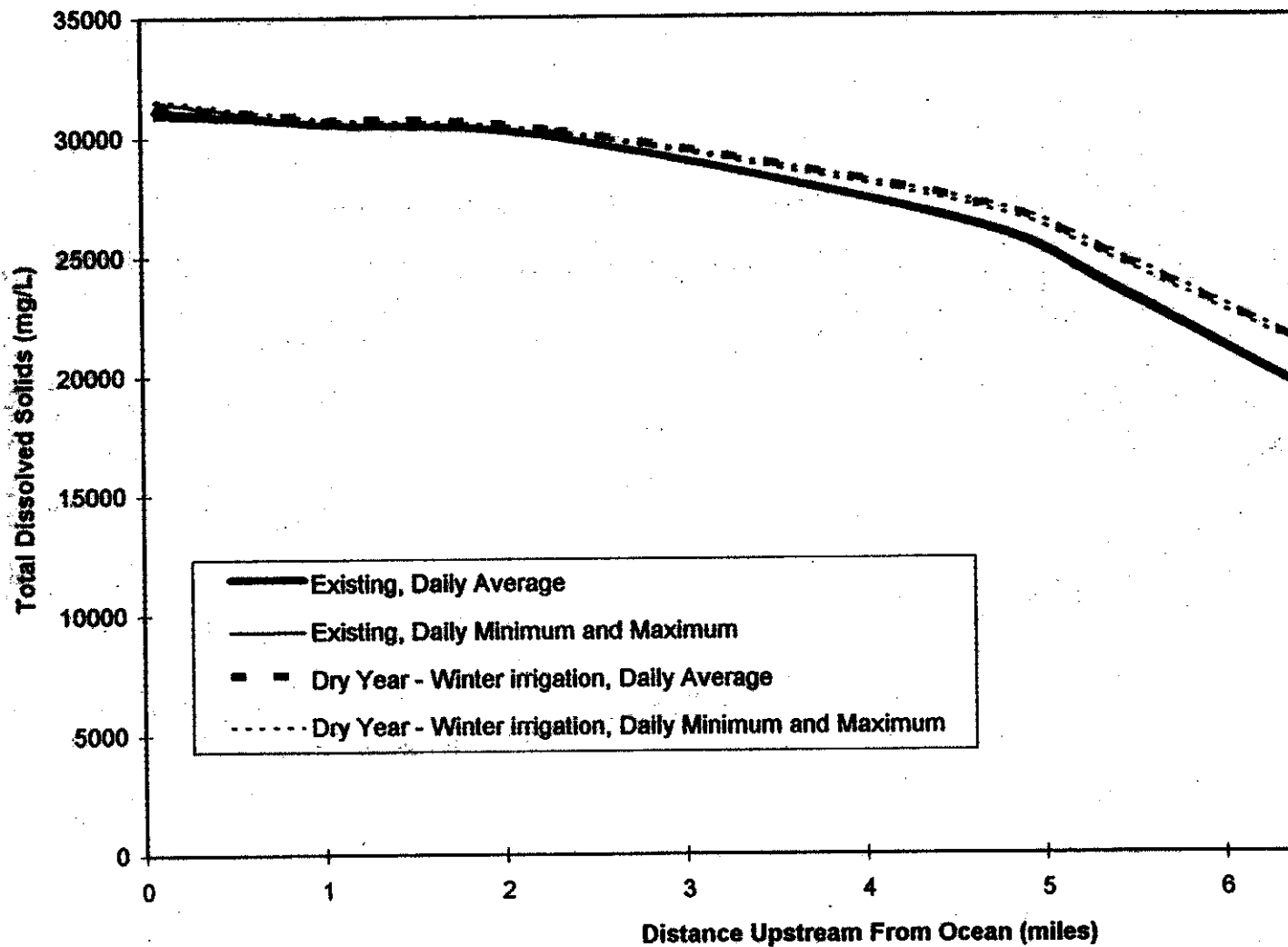
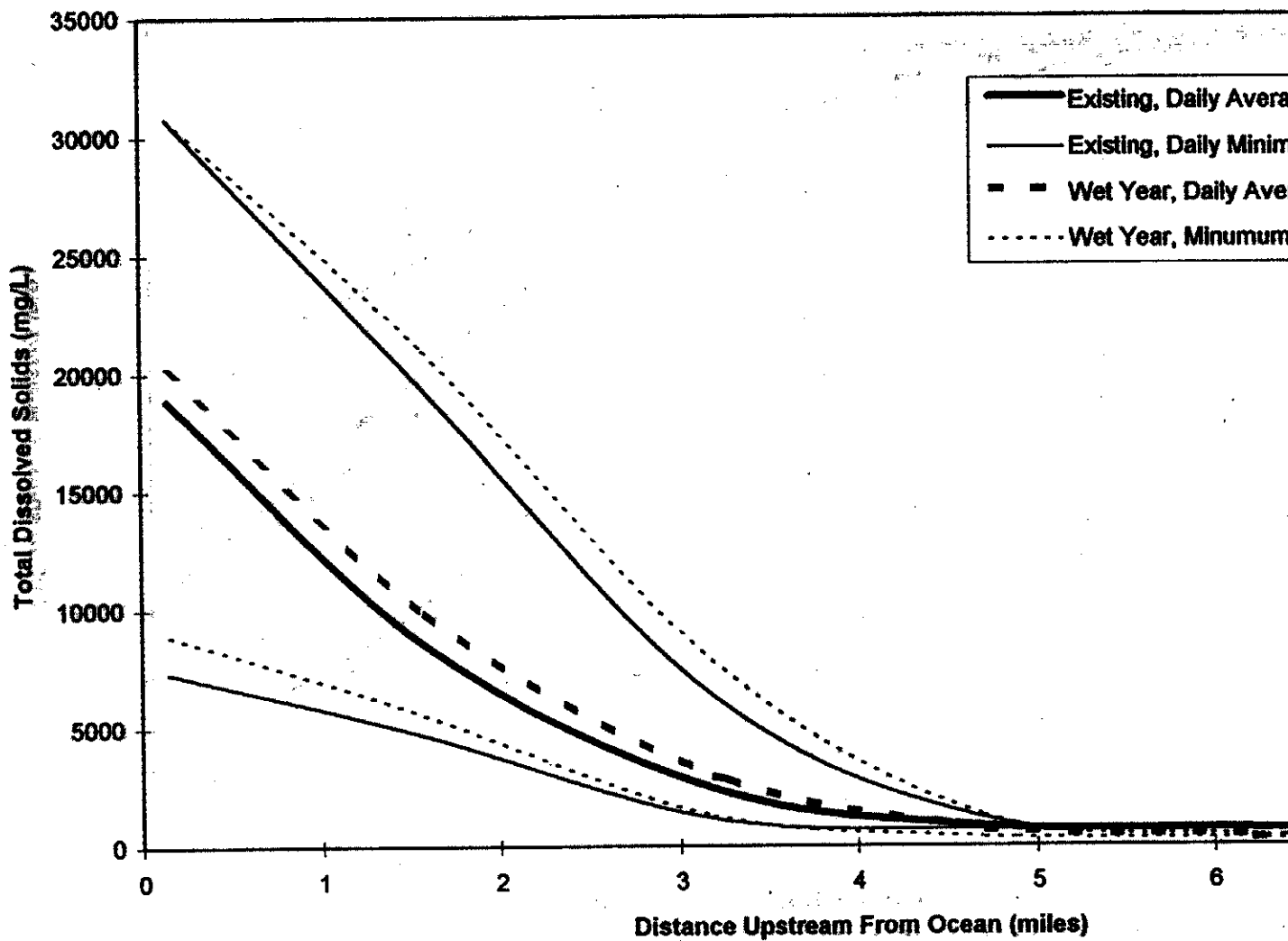


Chart9

**Figure 6-1.13. Irrigation and Storage Impacts on TDS In Estero de San Antonio
Spring Inflow and Bar-Open Conditions**



**Figure 6-1.14. Irrigation and Storage Impacts on TDS in Estero de San Antonio
Spring Inflow and Bar-Open Conditions**

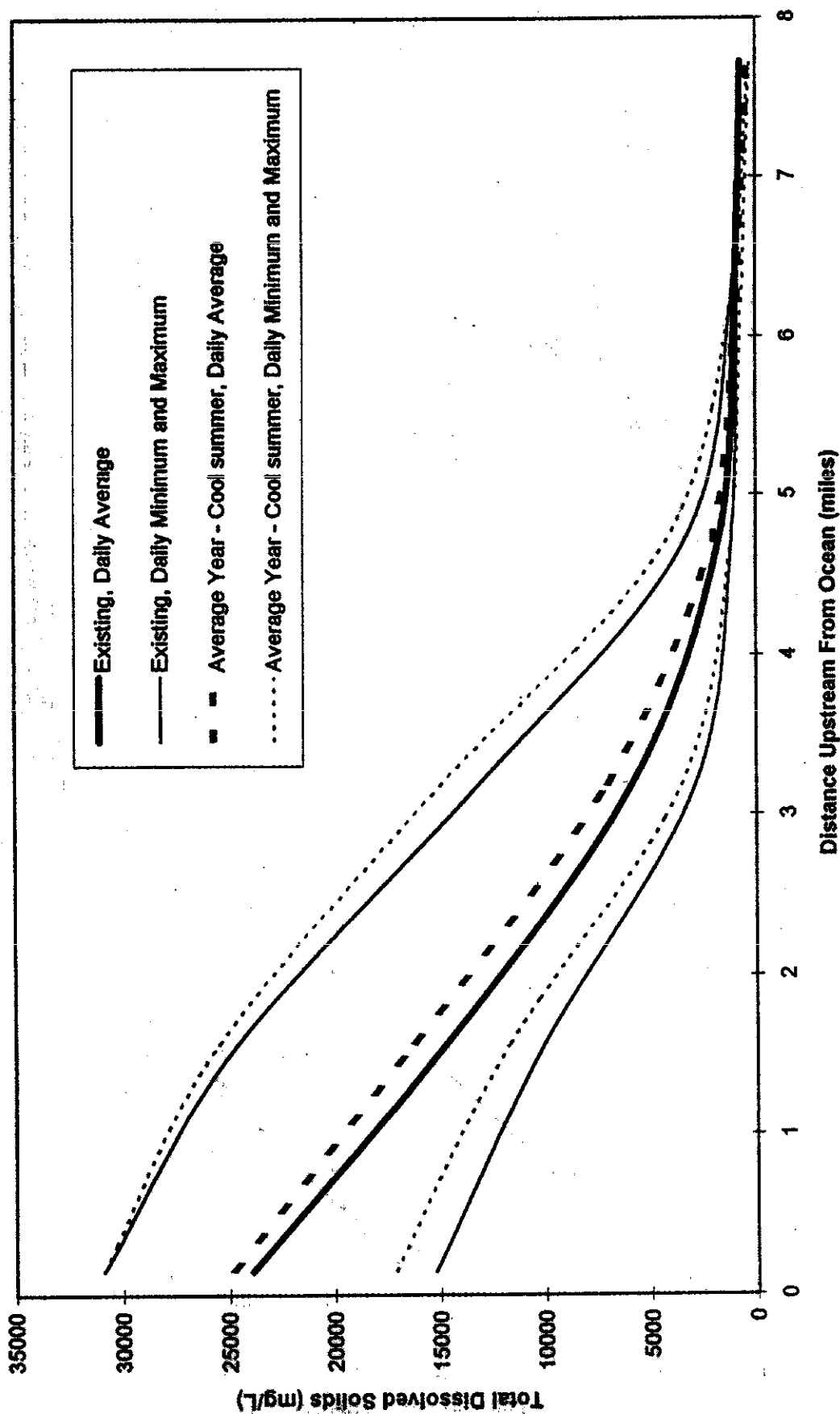


Chart7

**Figure 6-1.15. Irrigation and Storage Impacts on TDS In Estero de San Antonio
Spring Inflow and Bar-Open Conditions**

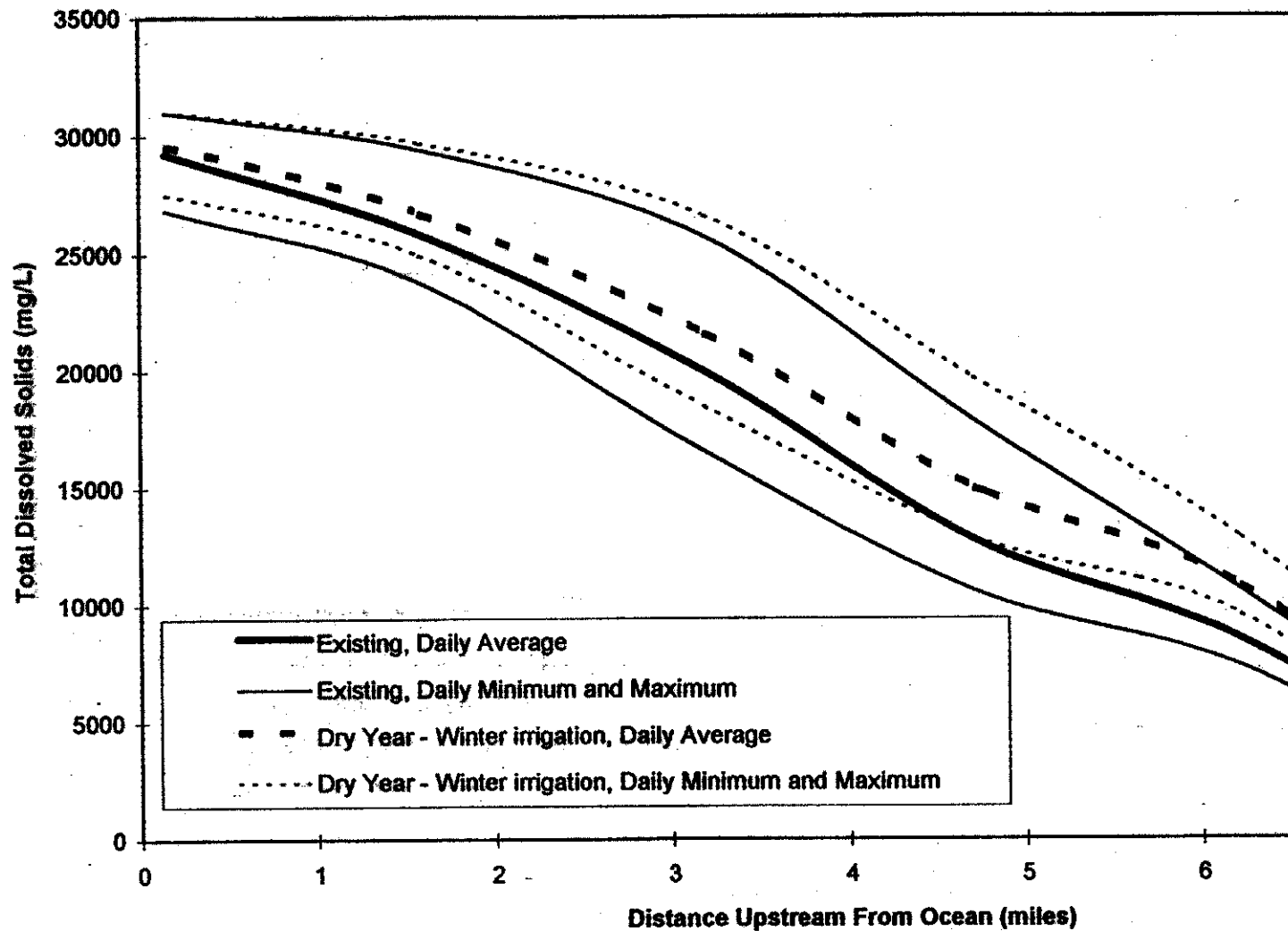


Chart9

**Figure 6-1.16. Irrigation and Storage Impacts on TDS in Estero de San Antonio
Spring Inflow and Bar-Closed Conditions**

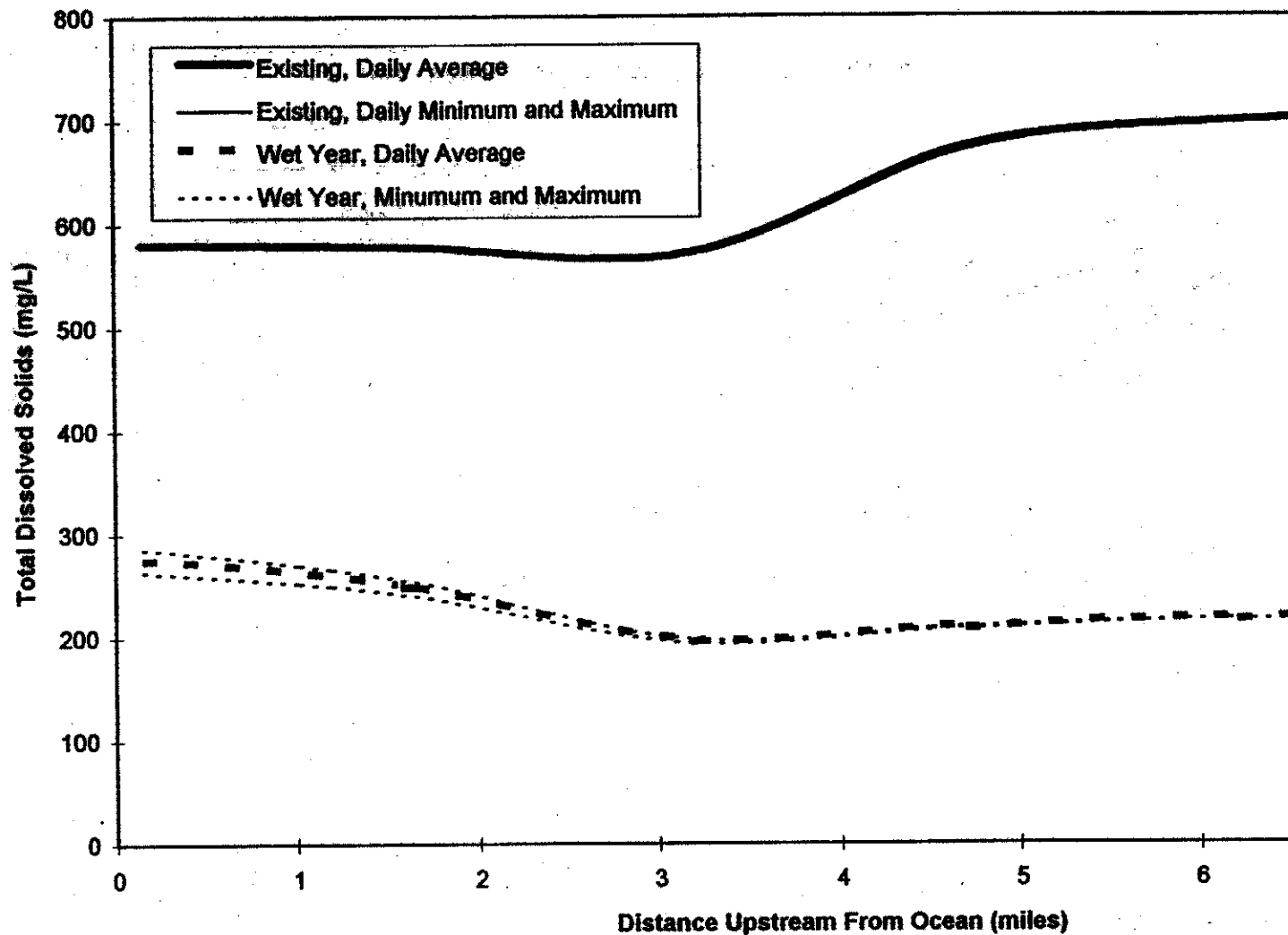


Chart4

**Figure 6-1.17. Irrigation and Storage Impacts on TDS in Estero de San Antonio
Spring Inflow and Bar-Closed Conditions**

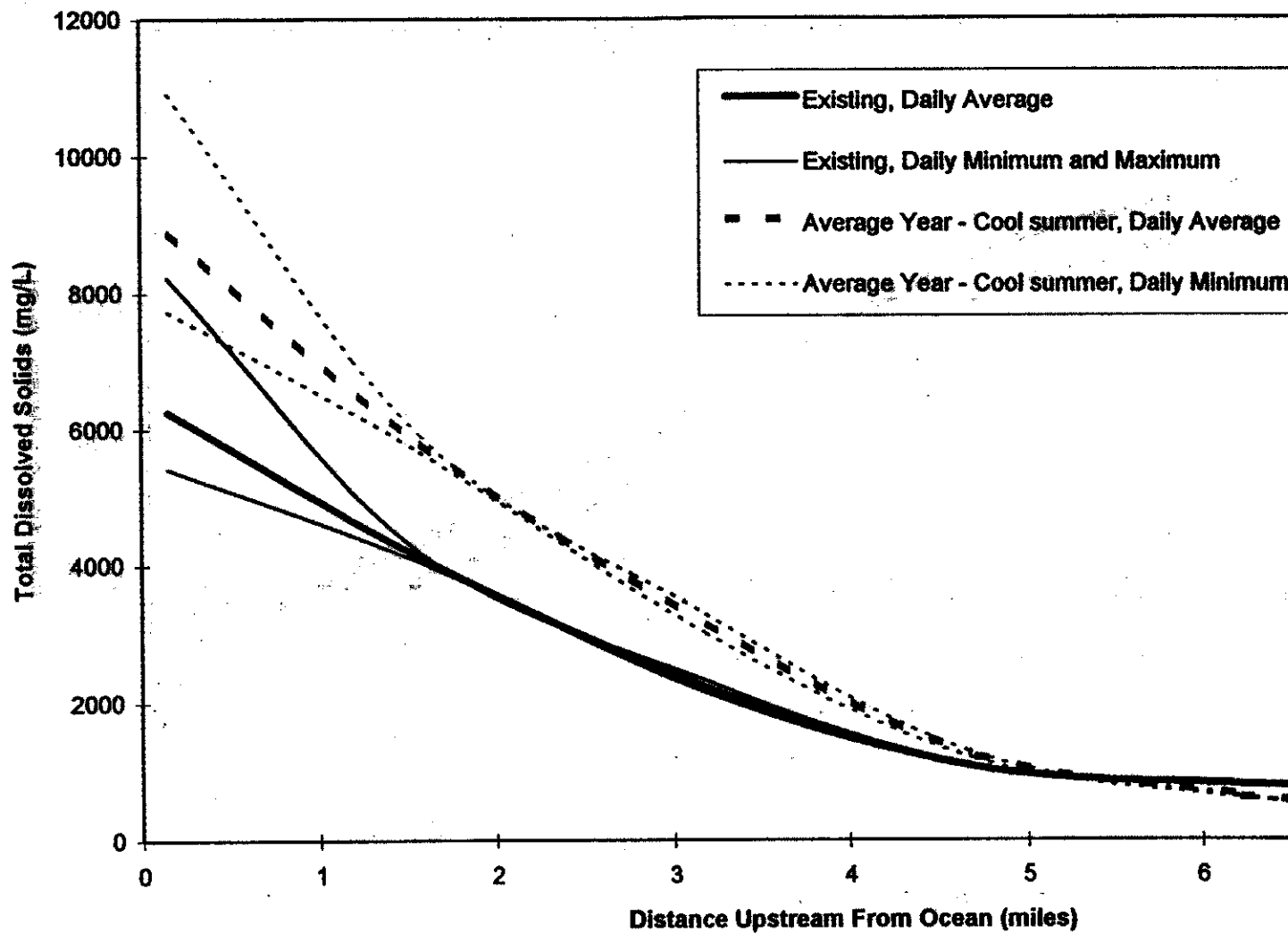


Chart7

**Figure 6-1.18. Irrigation and Storage Impacts on TDS In Estero de San Antonio
Spring Inflow and Bar-Closed Conditions**

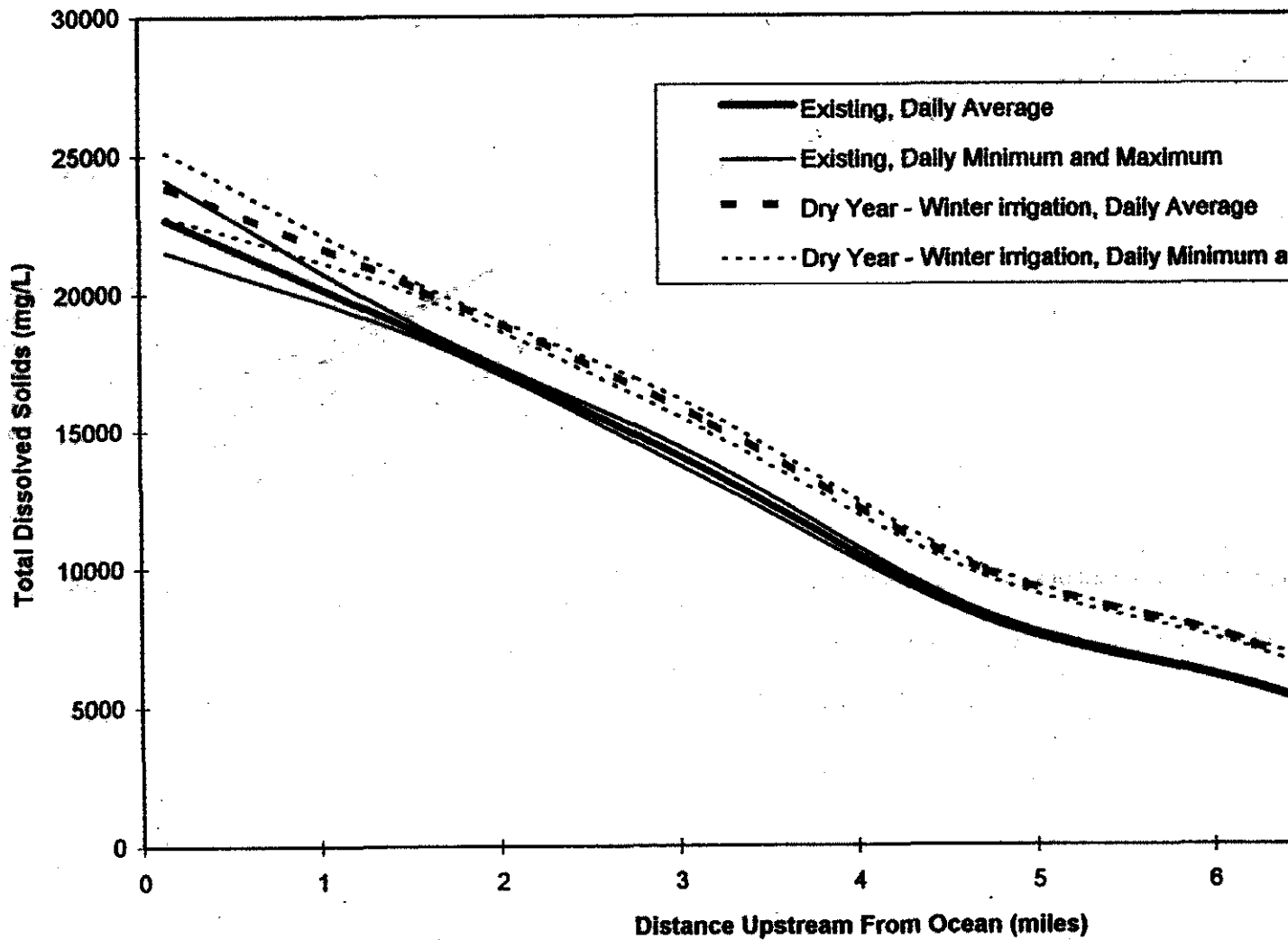


Chart10

**Figure 6-1.19. Irrigation and Storage Impacts on TDS in Estero de San Antonio
Summer Inflow and Bar-Open Conditions**

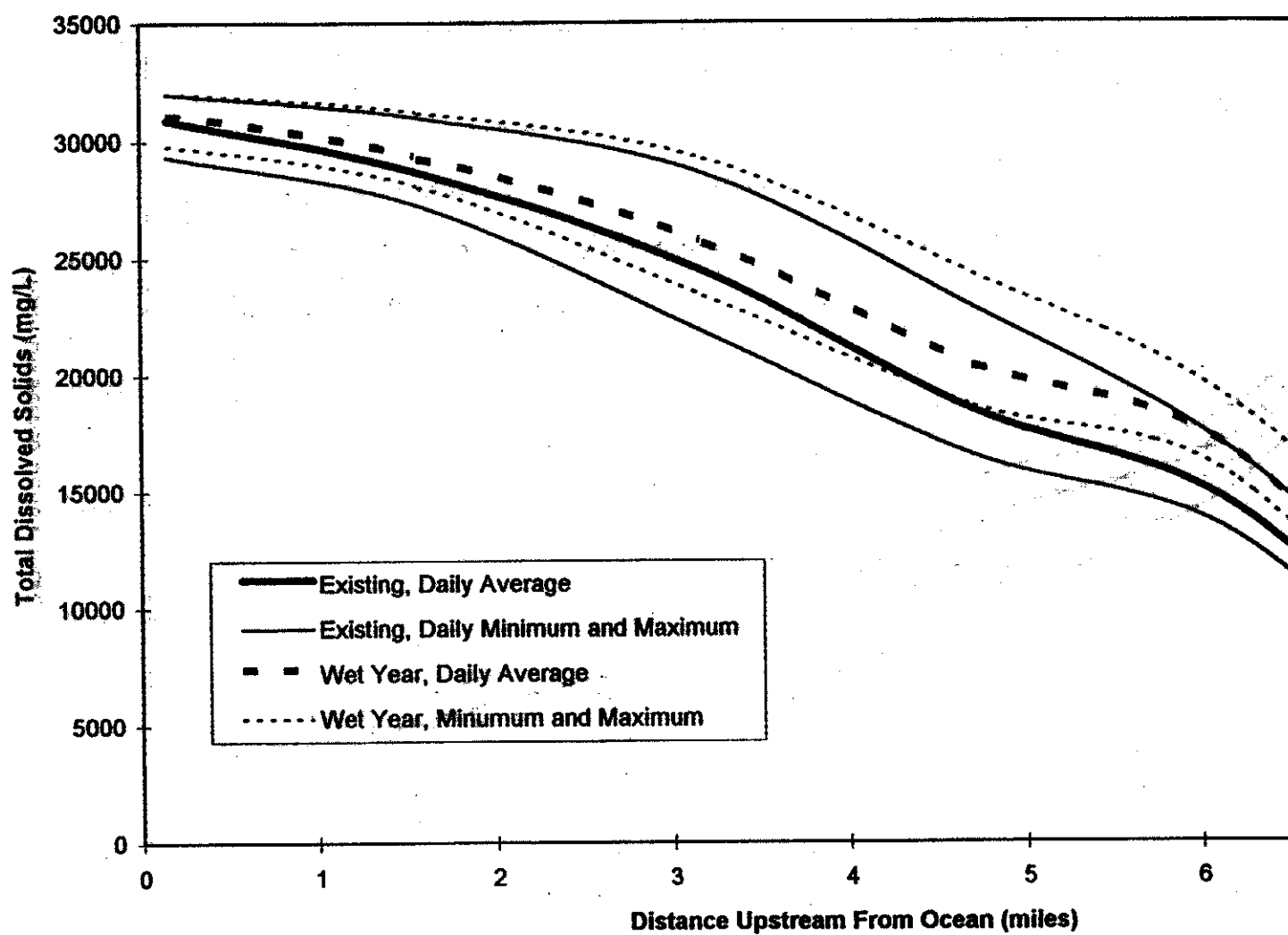


Chart6

**Figure 6-1.20. Irrigation and Storage Impacts on TDS In Estero de San Antonio
Summer Inflow and Bar-Open Conditions**

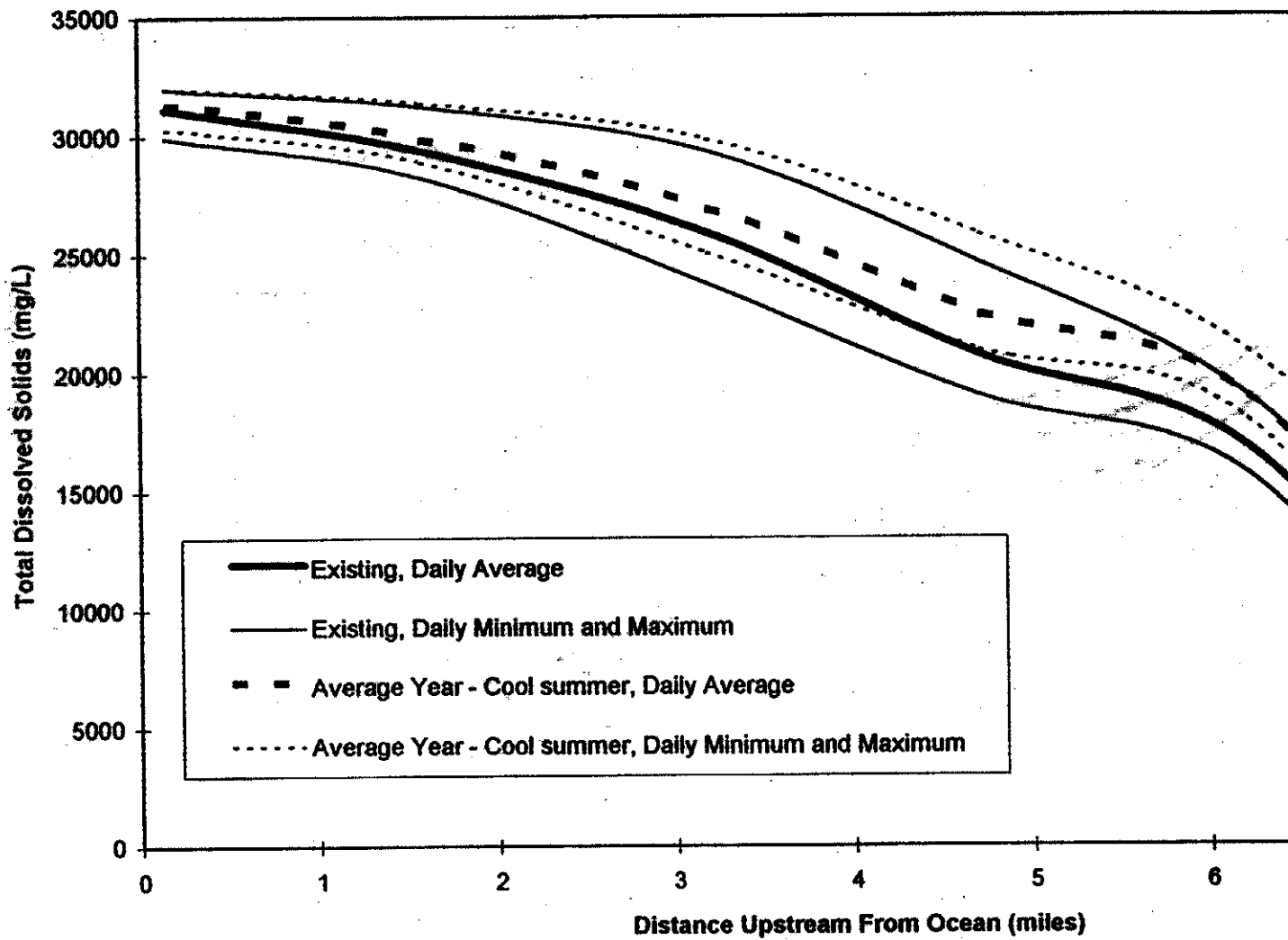


Figure 6-1.21. Irrigation and Storage Impacts on TDS In Estero de San Antonio
Summer Inflow and Bar-Open Conditions

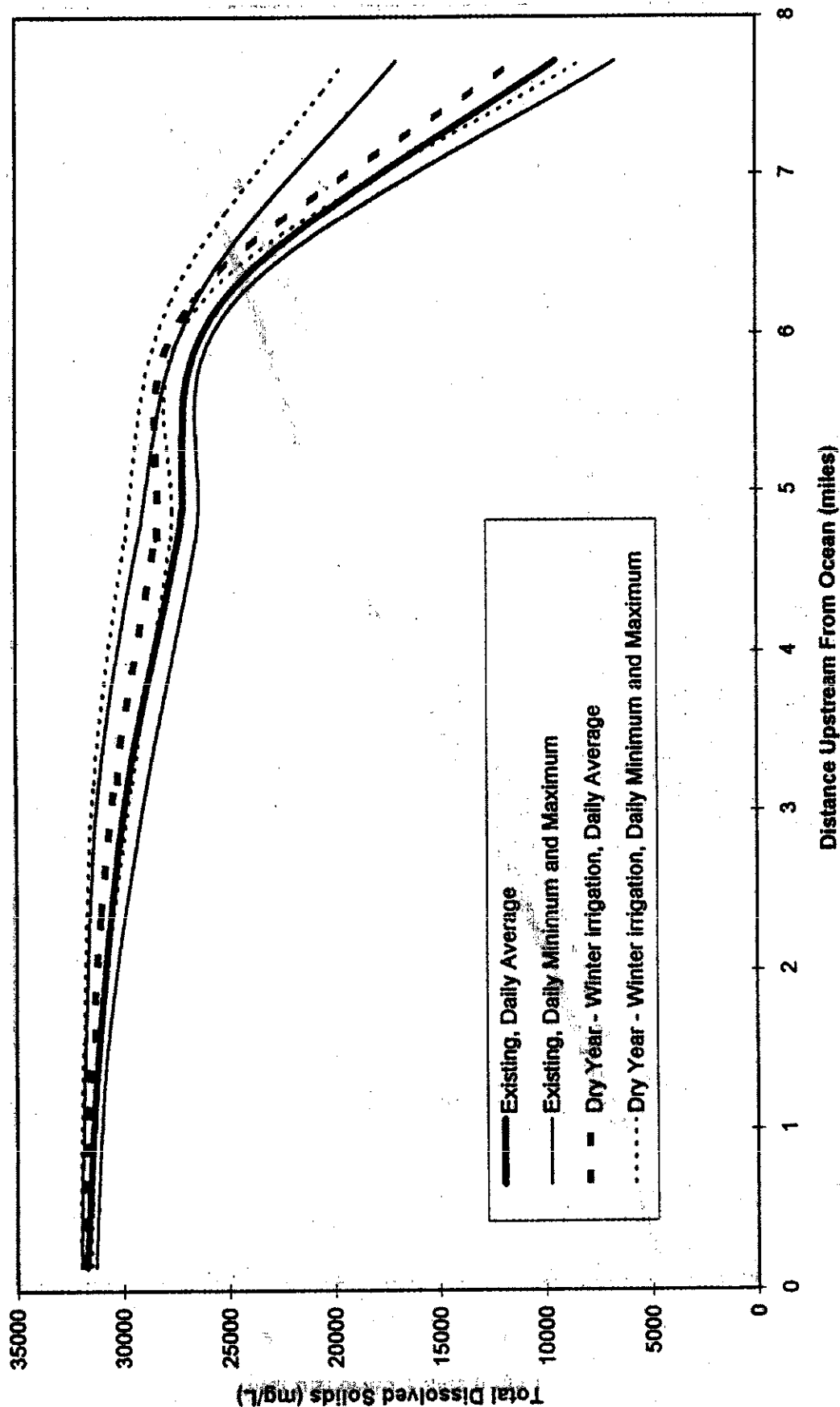
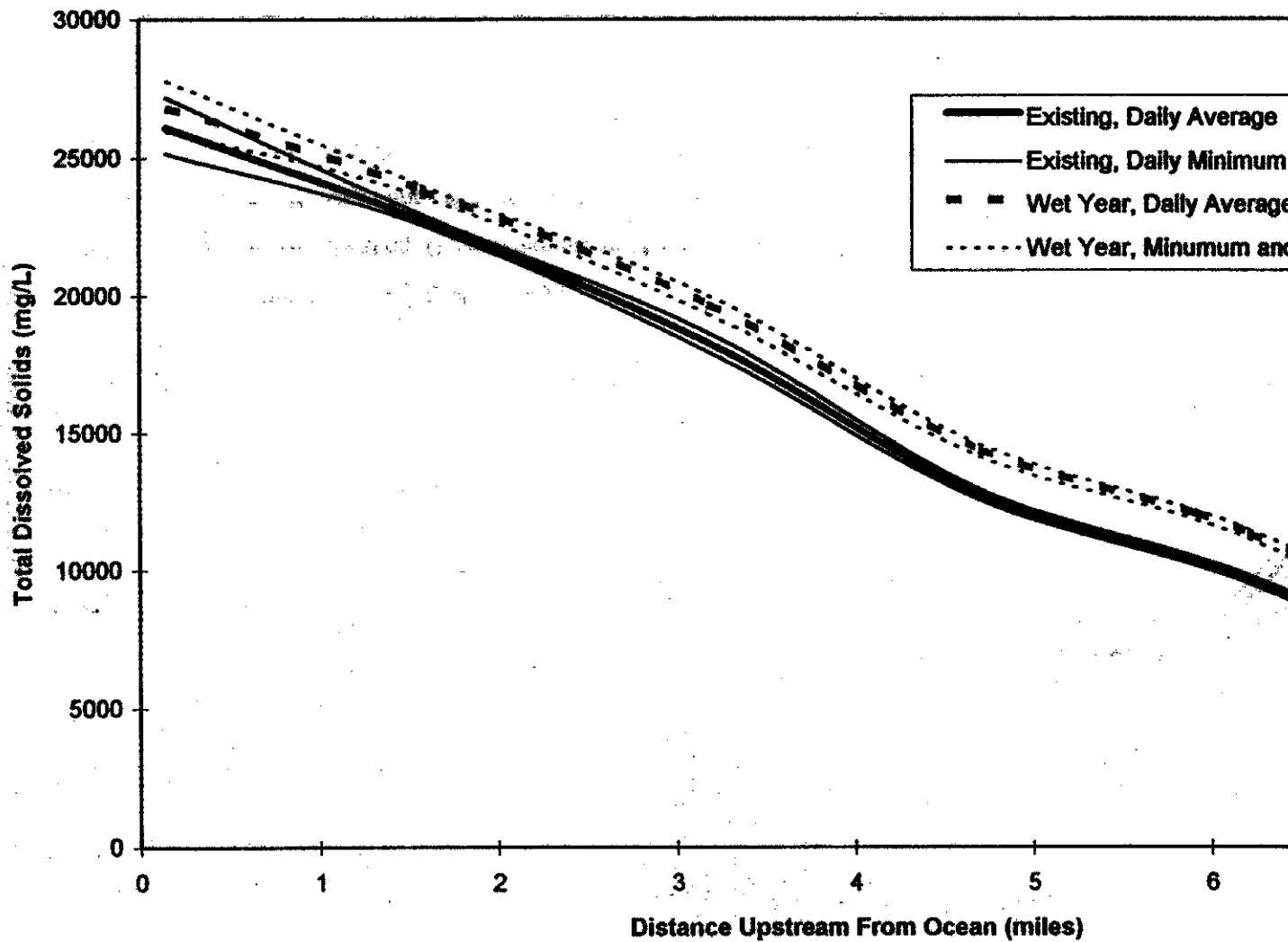


Chart10

**Figure 6-1.22. Irrigation and Storage Impacts on TDS In Estero de San Antonio
Summer Inflow and Bar-Closed Conditions**



**Figure 6-1.23. Irrigation and Storage Impacts on TDS in Estero de San Antonio
Summer Inflow and Bar-Closed Conditions**

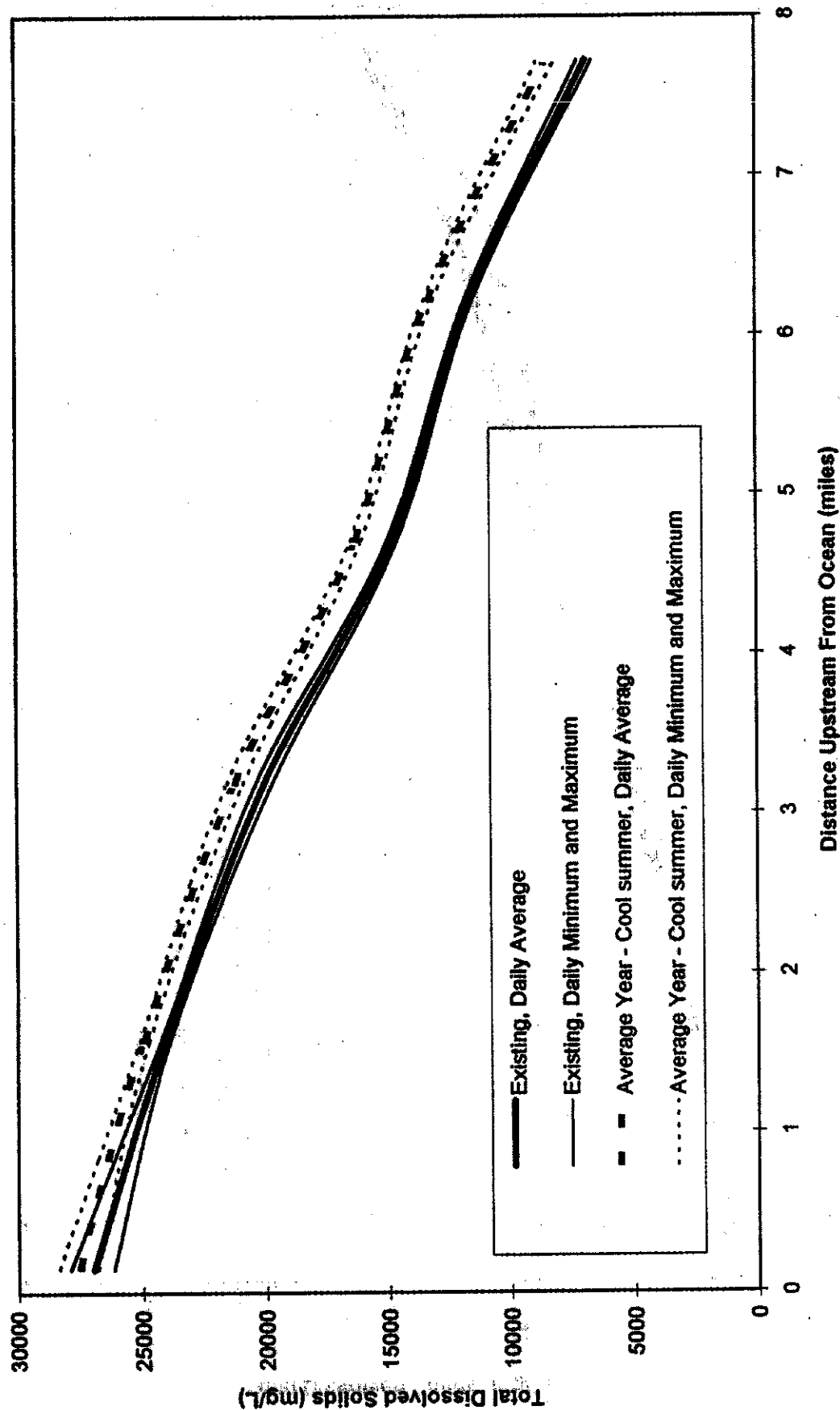
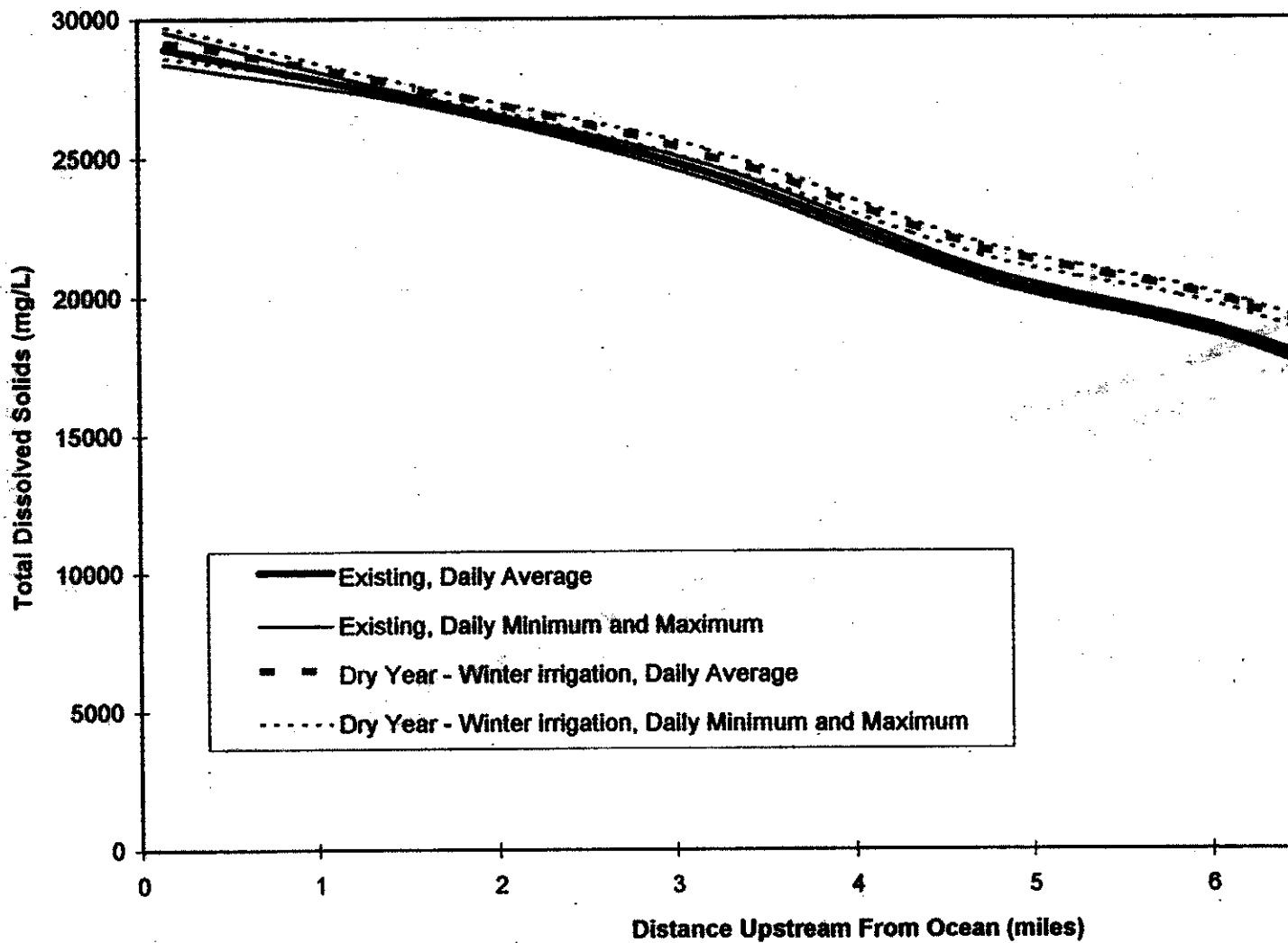


Chart8

**Figure 6-1.24. Irrigation and Storage Impacts on TDS In Estero de San Antonio
Summer Inflow and Bar-Closed Conditions**



**Figure 6-2.1. Irrigation and Storage Impacts on Ammonia In Estero Americano
Spring Inflow and Bar-Open Conditions**

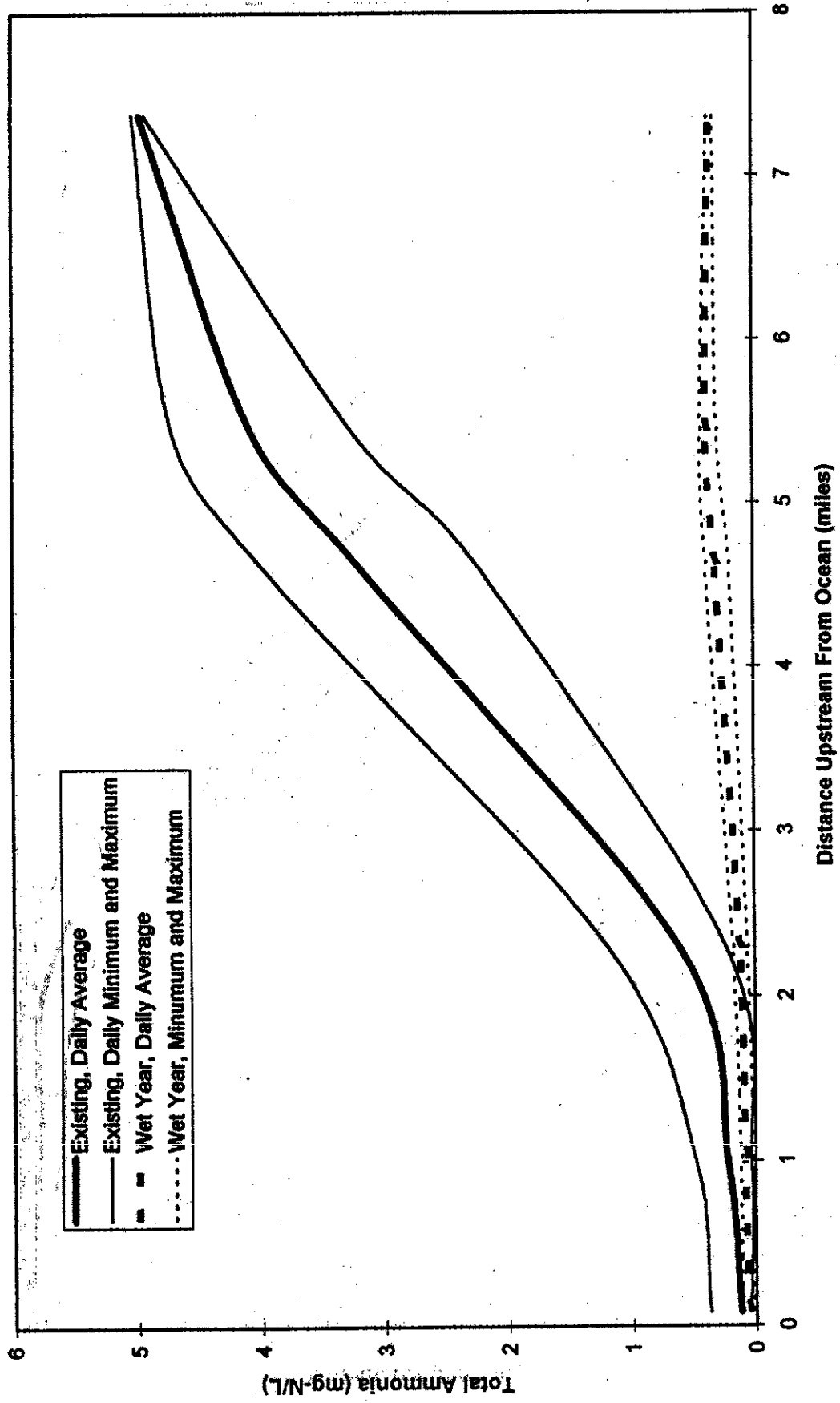


Figure 6-2.2. Irrigation and Storage Impacts on Ammonia in Estero Americano
Spring Inflow and Bar-Open Conditions

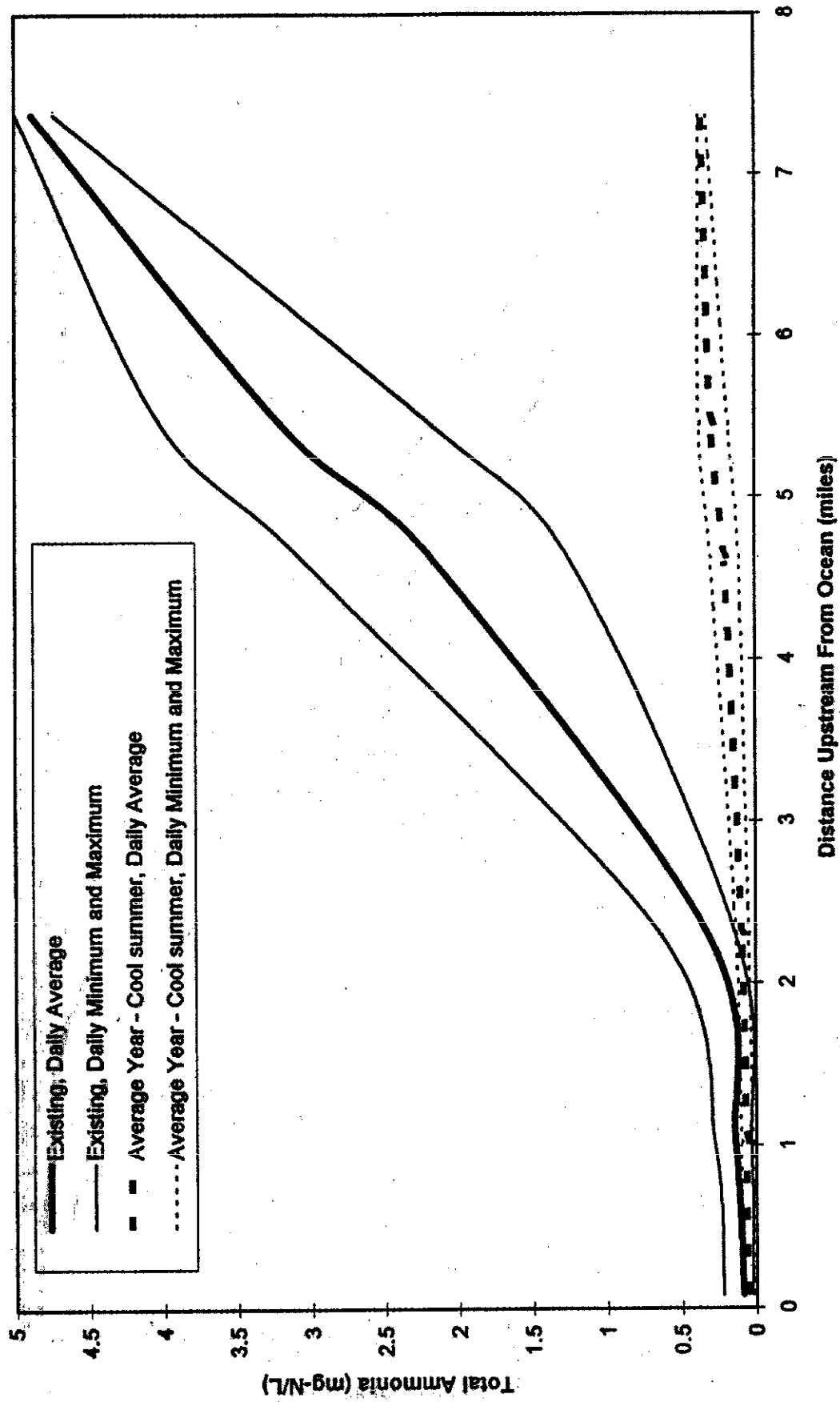
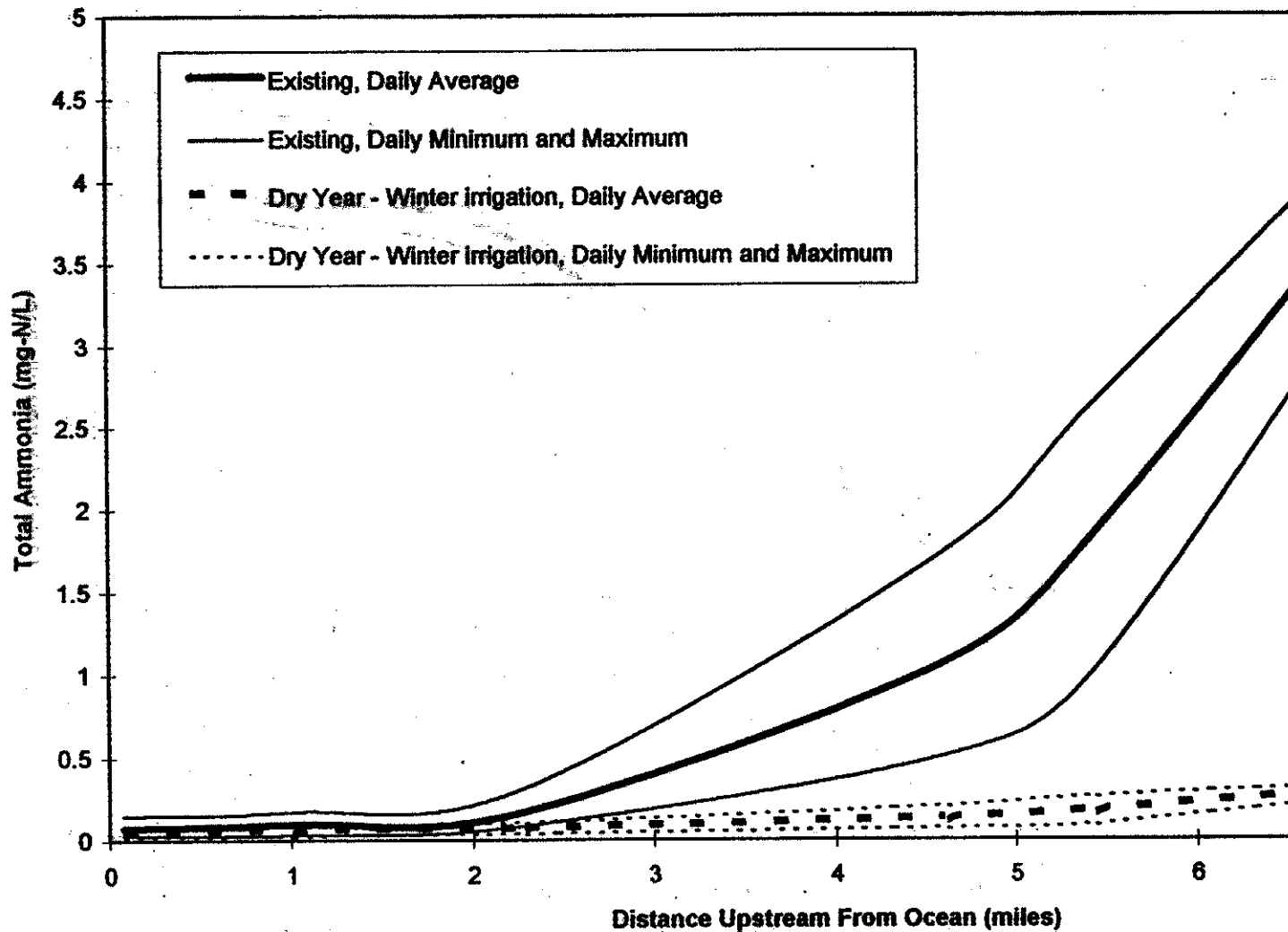


Chart6

**Figure 6-2.3. Irrigation and Storage Impacts on Ammonia In Estero American
Spring Inflow and Bar-Open Conditions**



**Figure 6-2.4. Irrigation and Storage Impacts on Ammonia in Estero Americano
Spring Inflow and Bar-Closed Conditions**

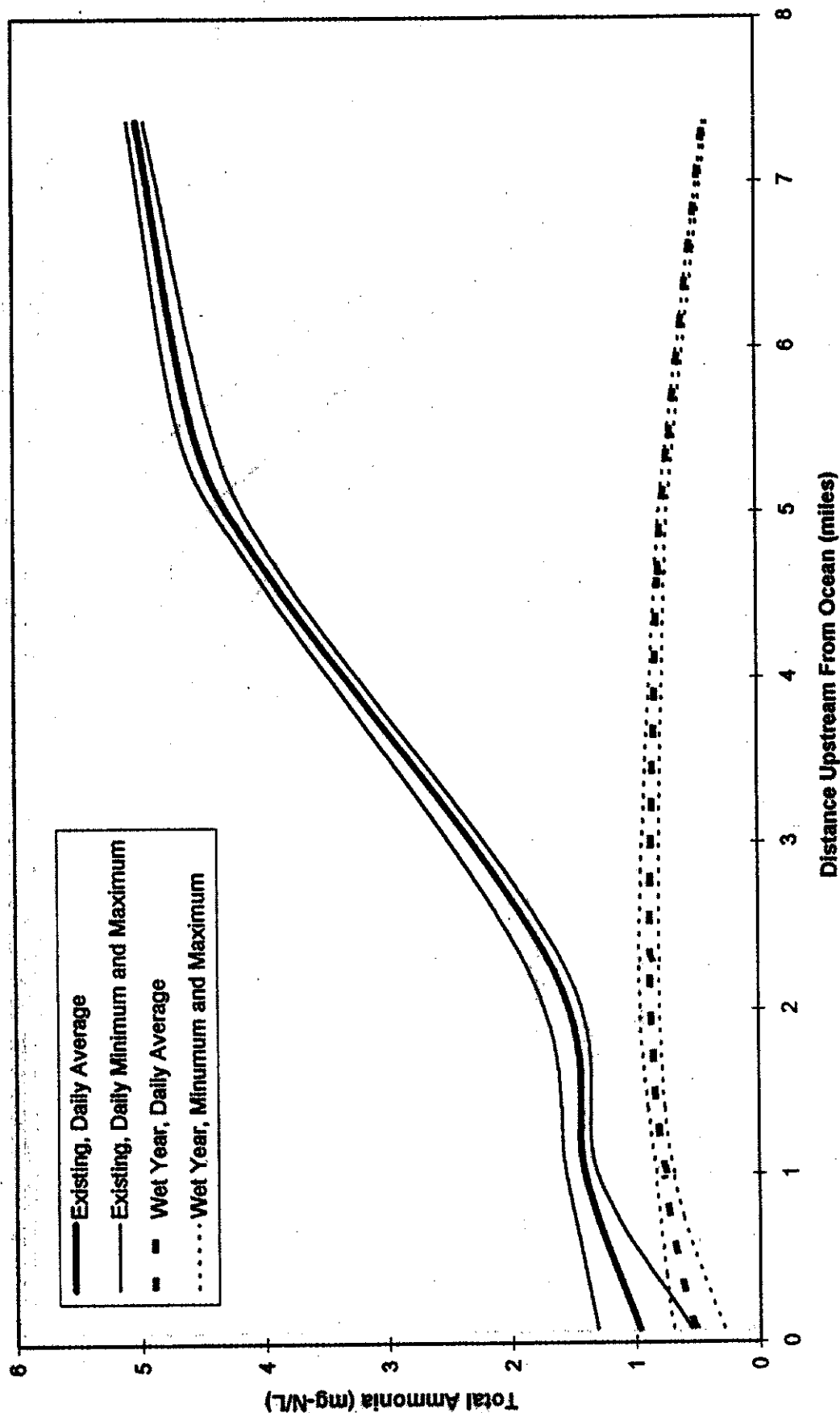


Chart1

**Figure 6-2.5. Irrigation and Storage Impacts on Ammonia In Estero American
Spring Inflow and Bar-Closed Conditions**

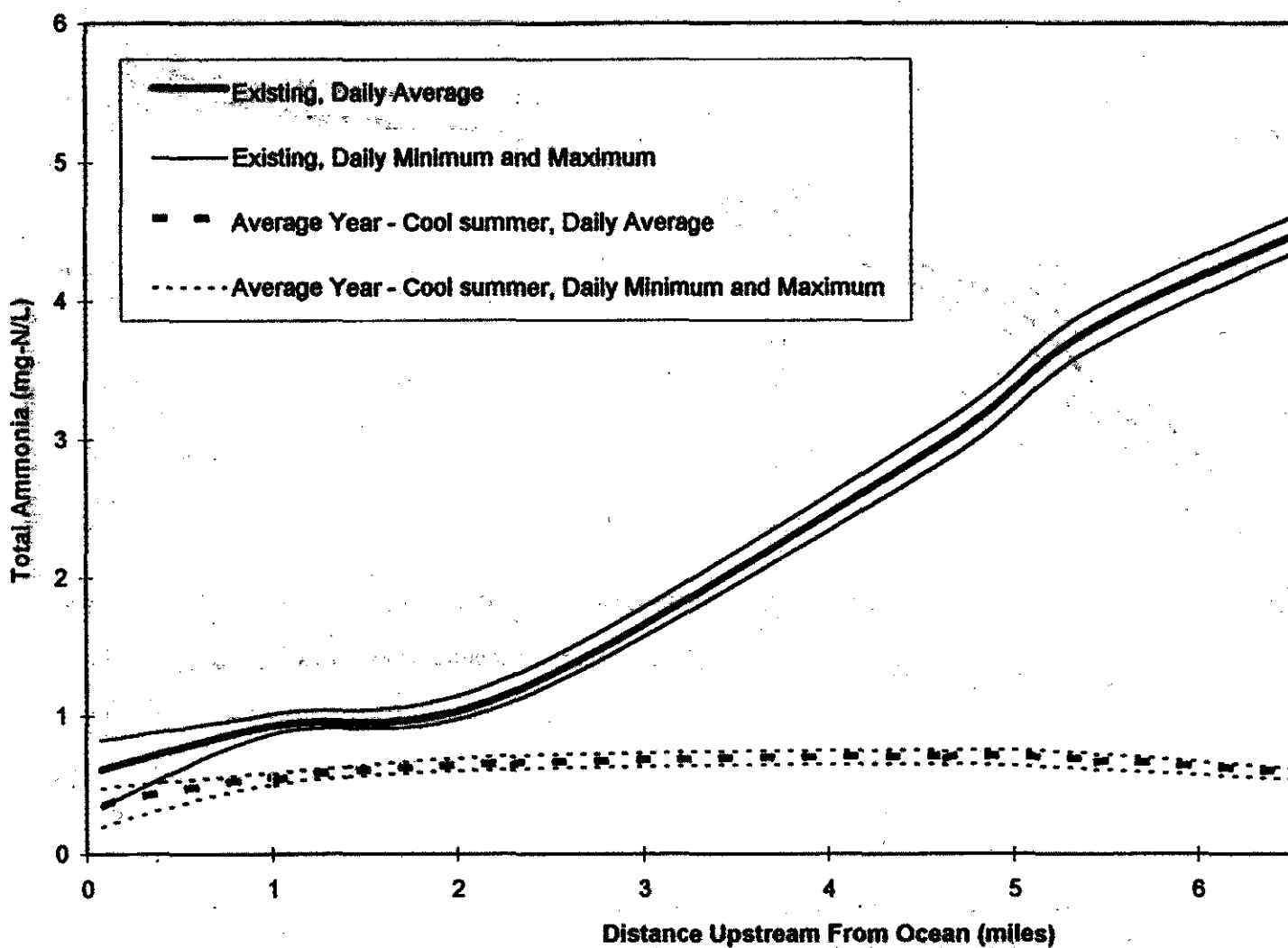
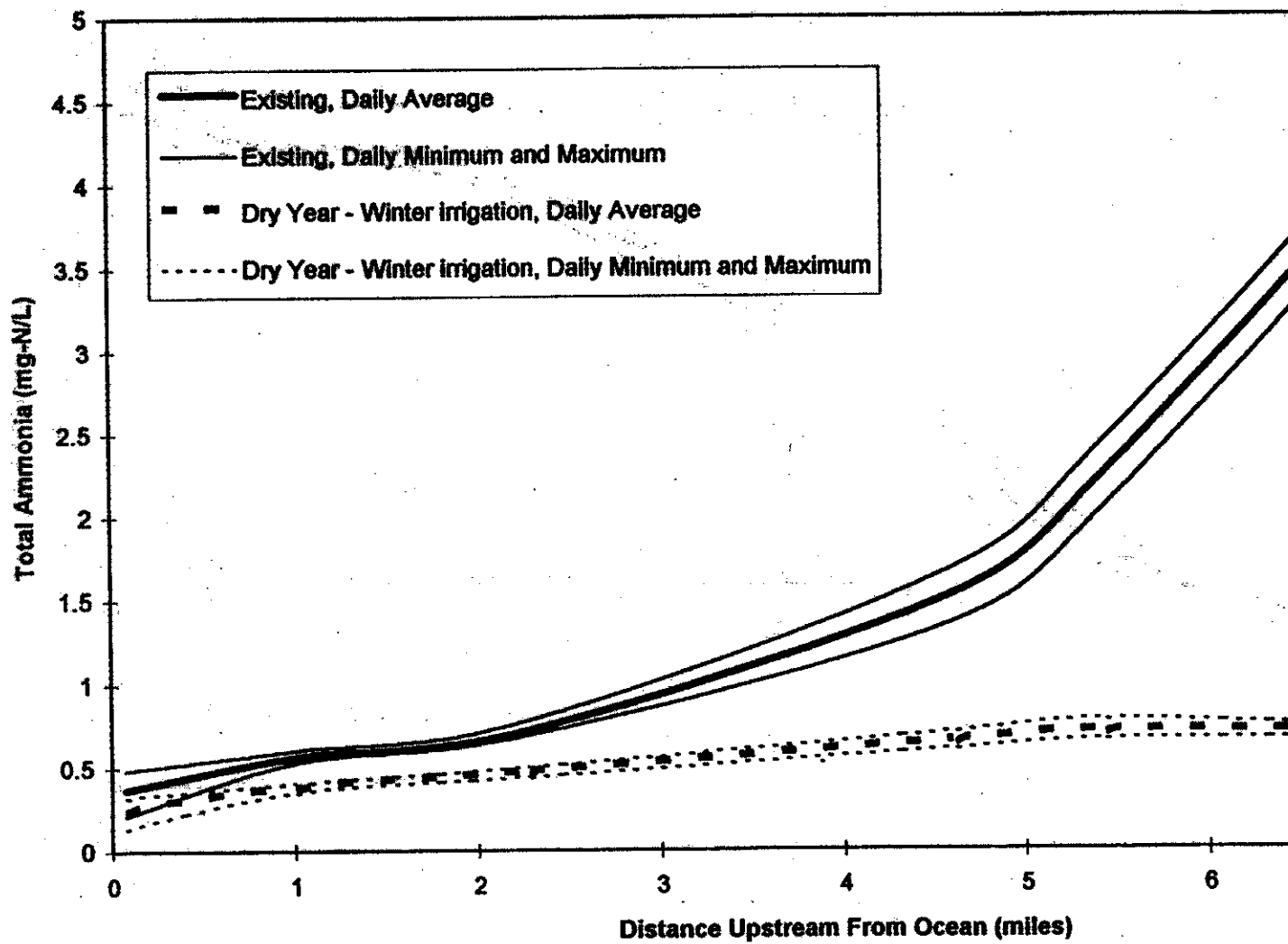
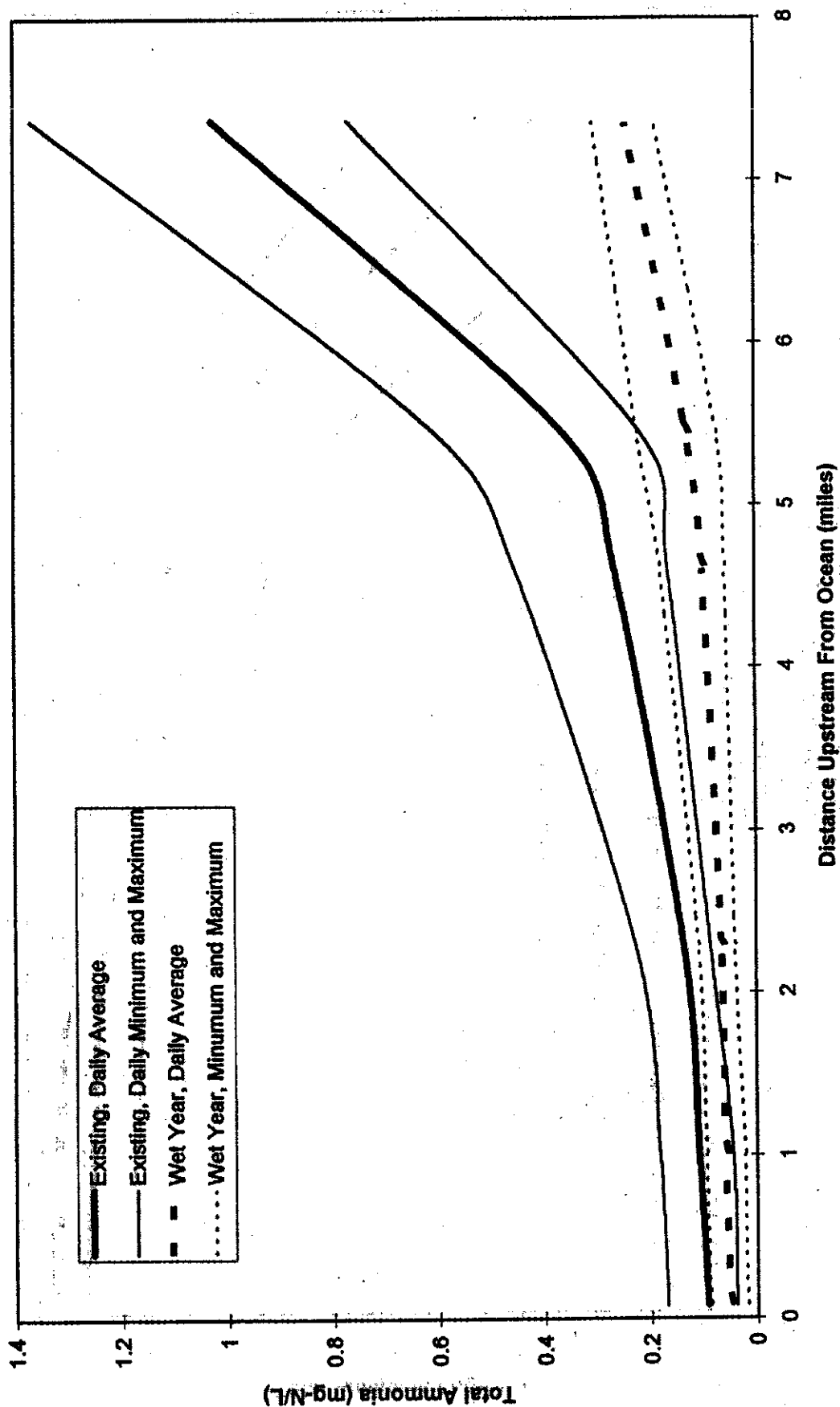


Chart3

**Figure 6-2.6. Irrigation and Storage Impacts on Ammonia in Estero American
Spring Inflow and Bar-Closed Conditions**



**Figure 6-2.7. Irrigation and Storage Impacts on Ammonia In Estero Americano
Summer Inflow and Bar-Open Conditions**



**Figure 6-2.8. Irrigation and Storage Impacts on Ammonia In Estero Americano
Summer Inflow and Bar-Open Conditions**

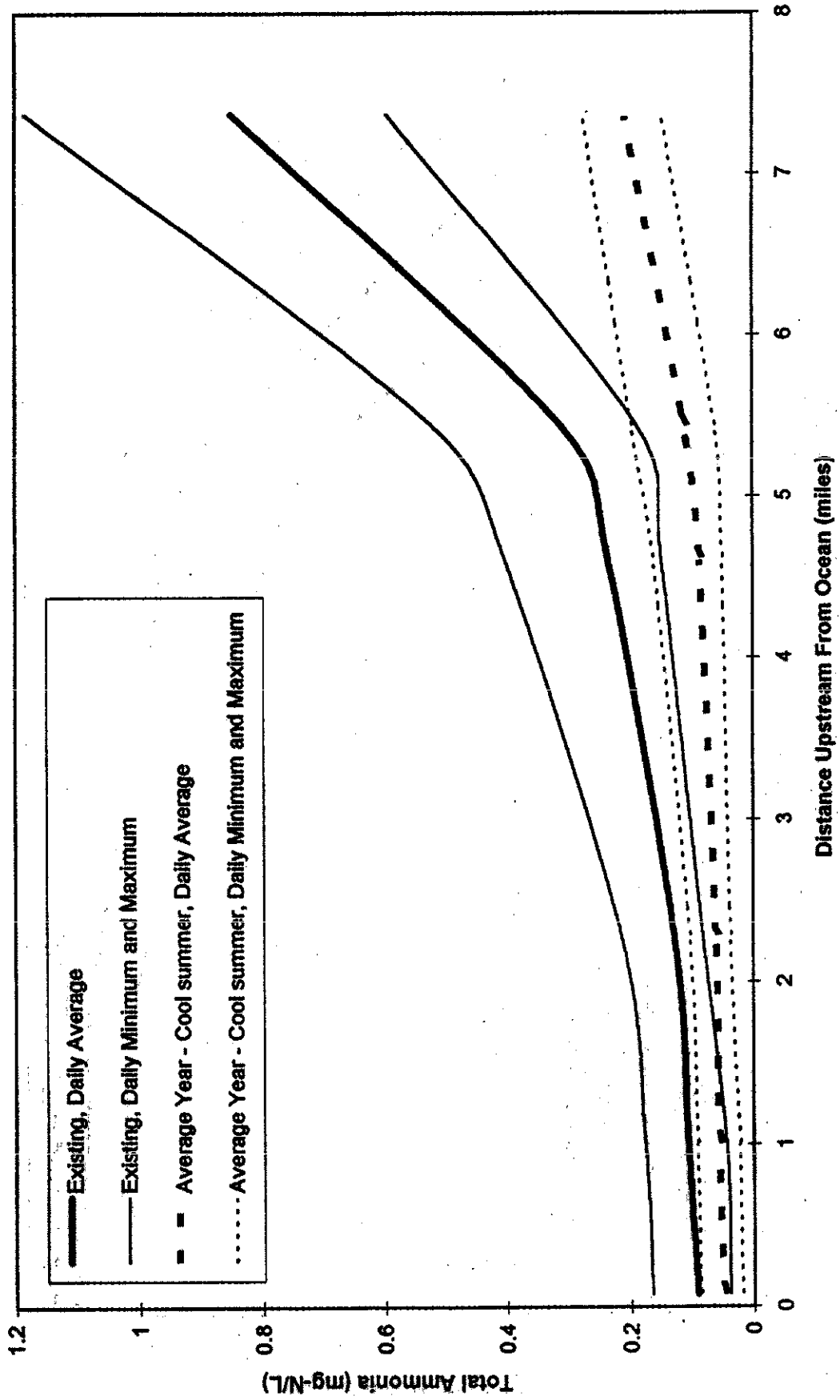
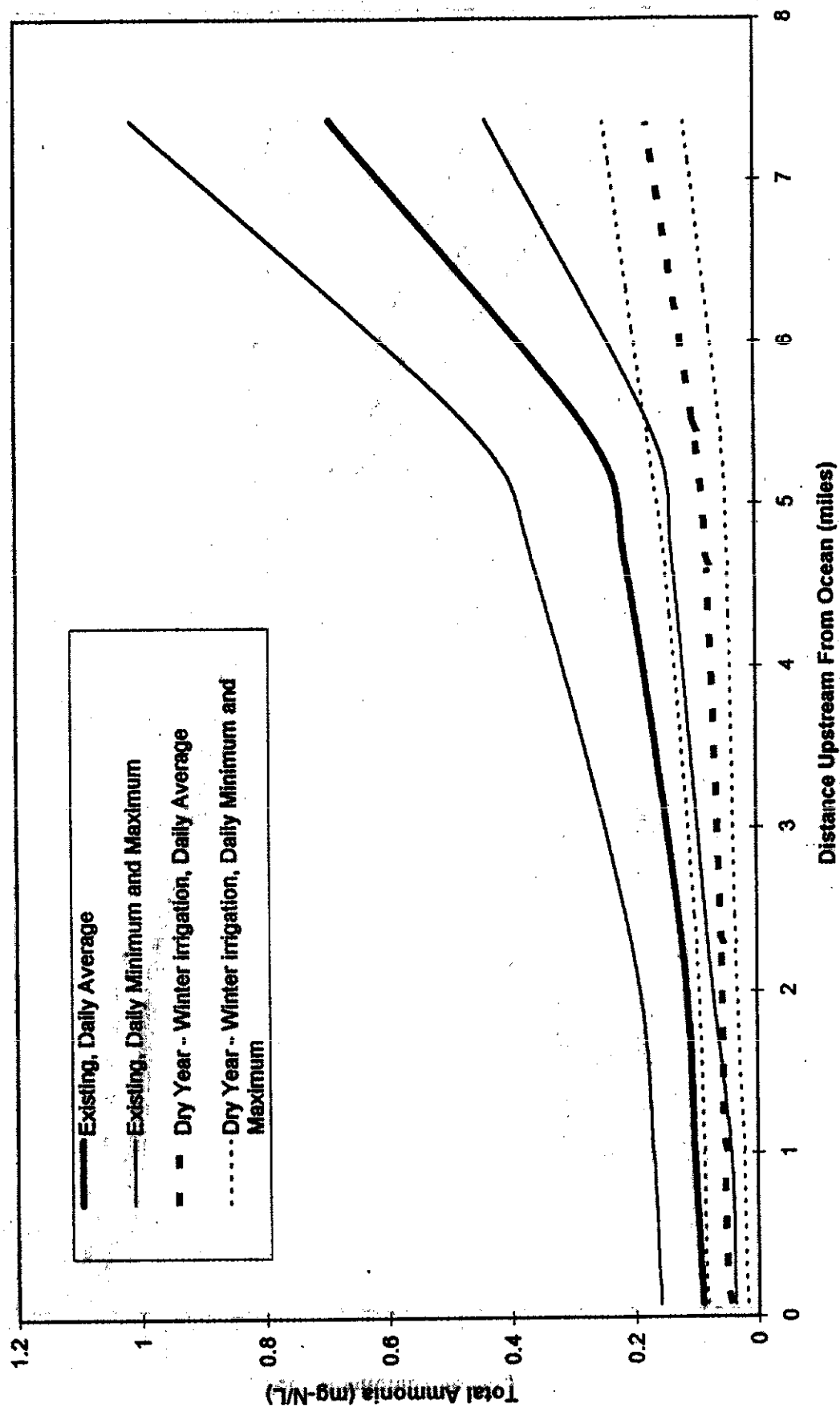


Figure 6-2.9. Irrigation and Storage Impacts on Ammonia in Estero Americano
Summer Inflow and Bar-Open Conditions



**Figure 6-2.10. Irrigation and Storage Impacts on Ammonia in Estero Americano
Summer Inflow and Bar-Closed Conditions**

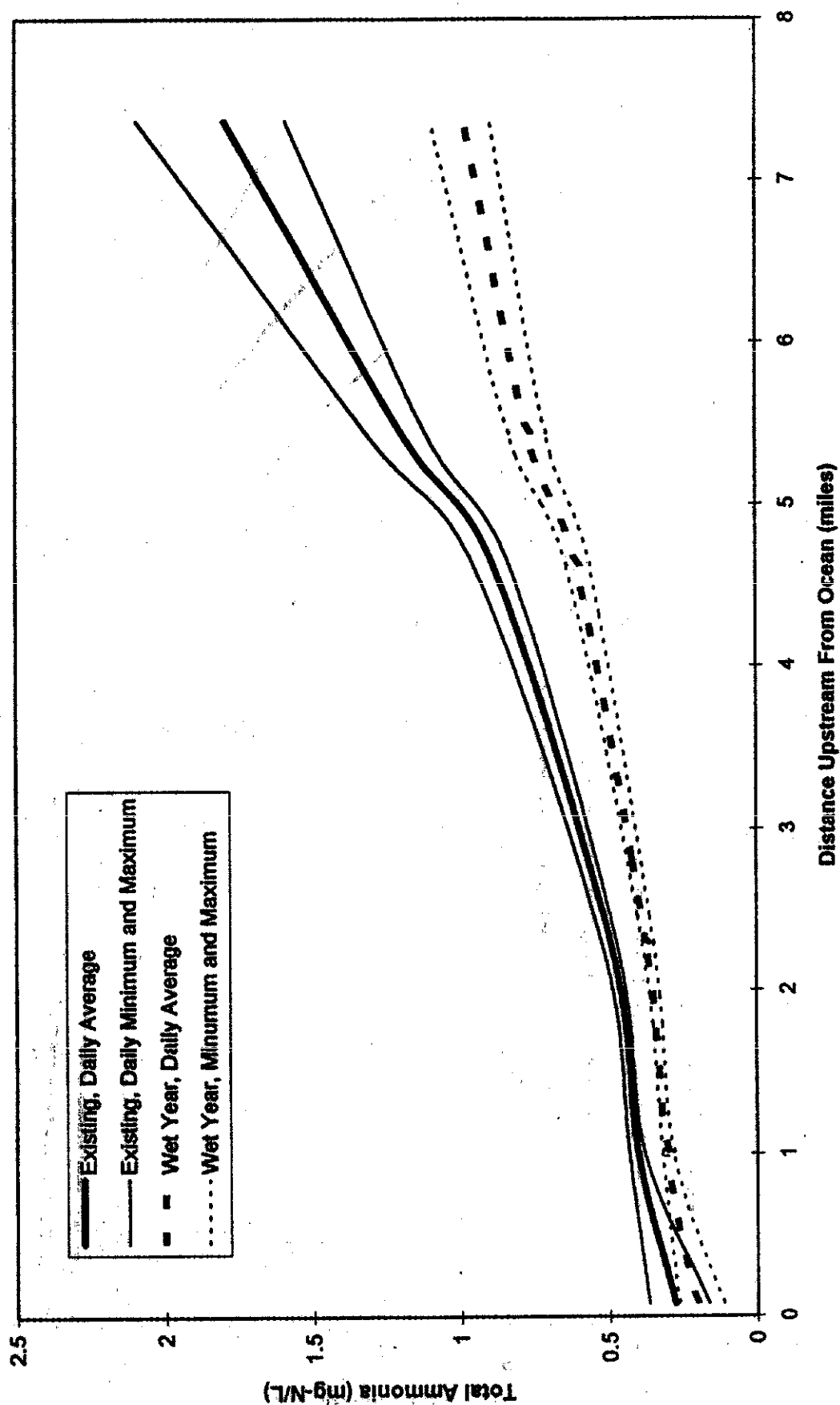


Chart2

**Figure 6-2.11. Irrigation and Storage Impacts on Ammonia In Estero American
Summer Inflow and Bar-Closed Conditions**

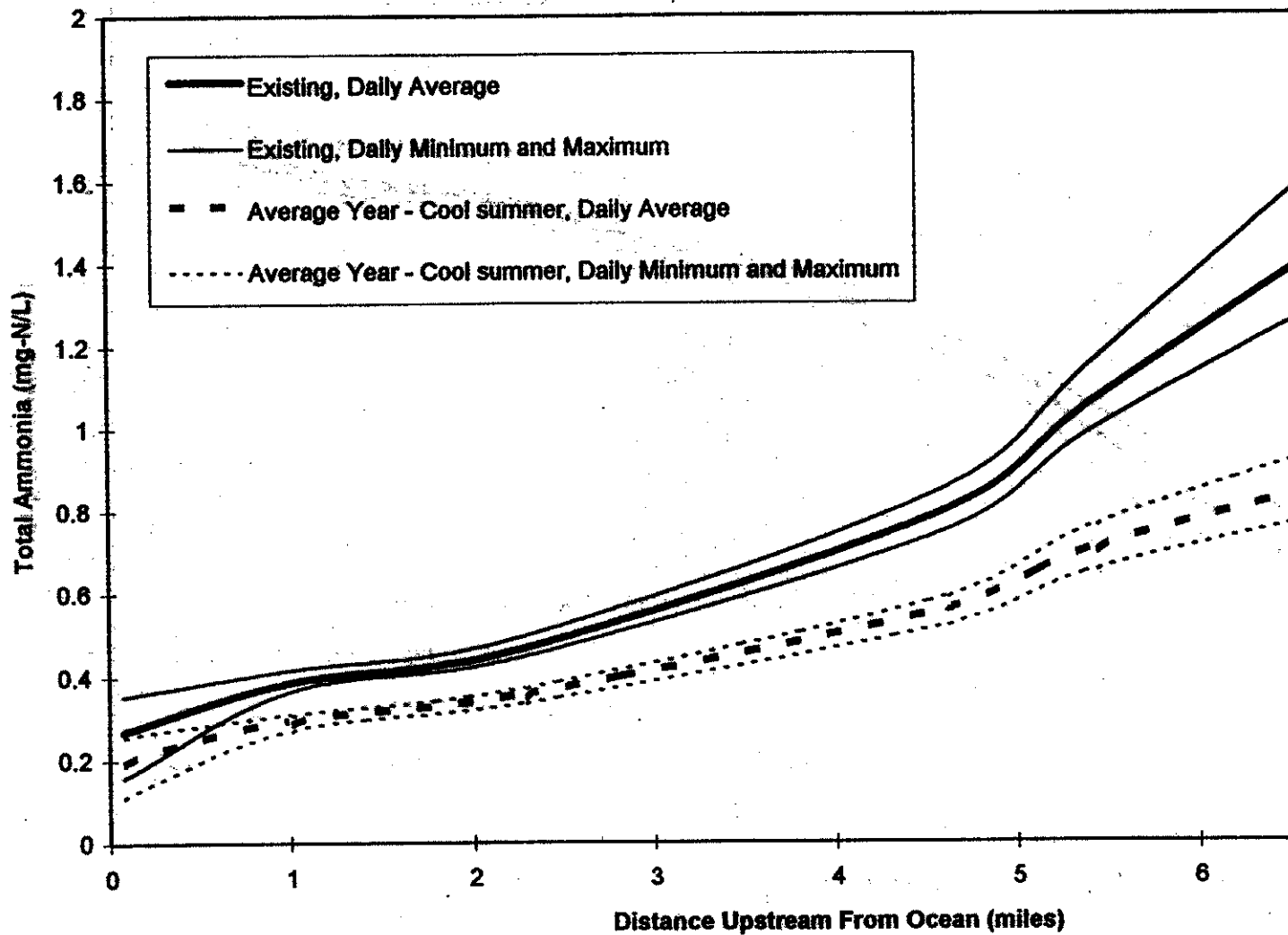
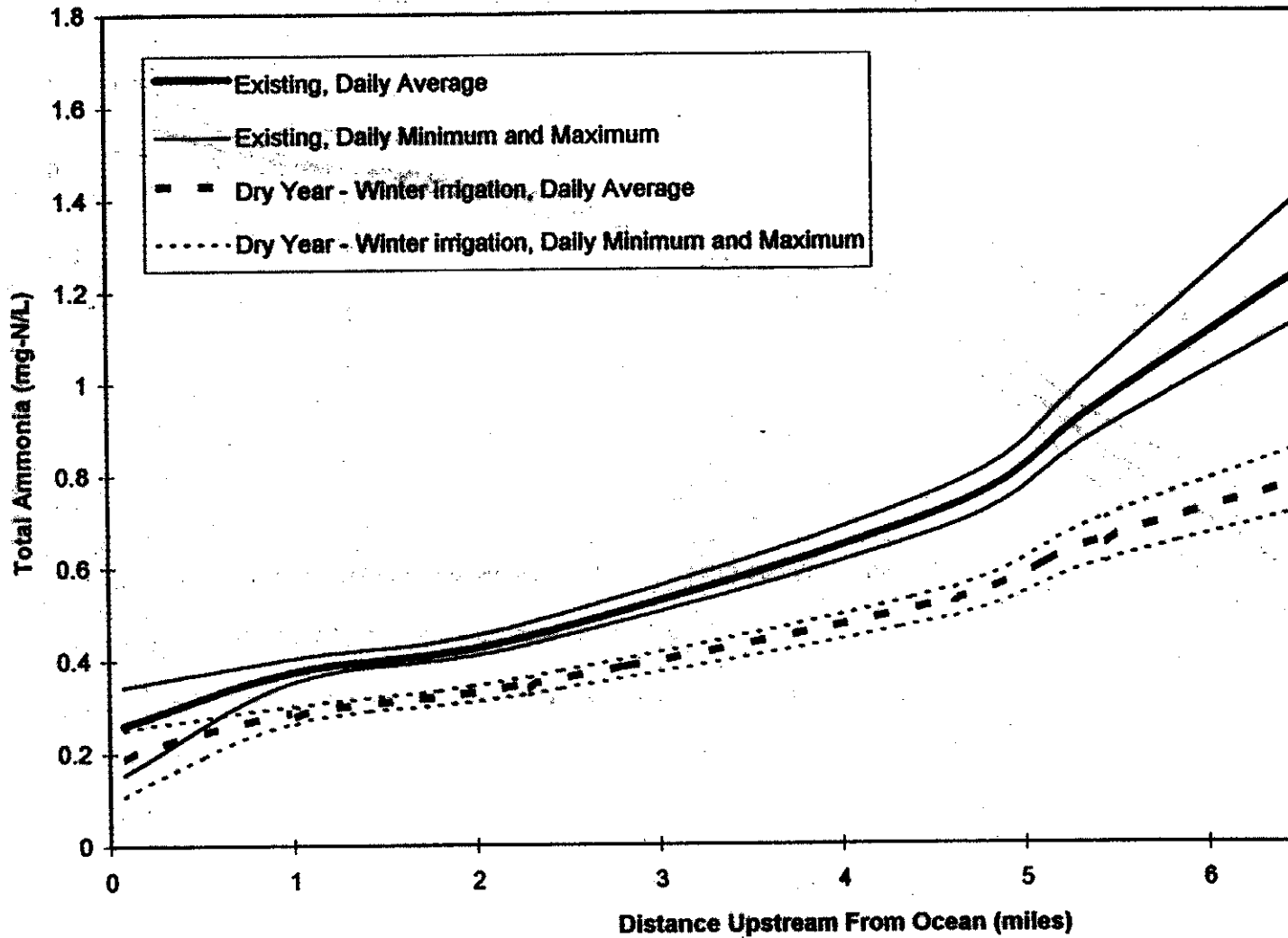


Chart4

**Figure 6-2.12. Irrigation and Storage Impacts on Ammonia In Estero America
Summer Inflow and Bar-Closed Conditions**



**Figure 6-2.13. Irrigation and Storage Impacts on Ammonia in Estero de San Antonio
Spring Inflow and Bar-Open Conditions**

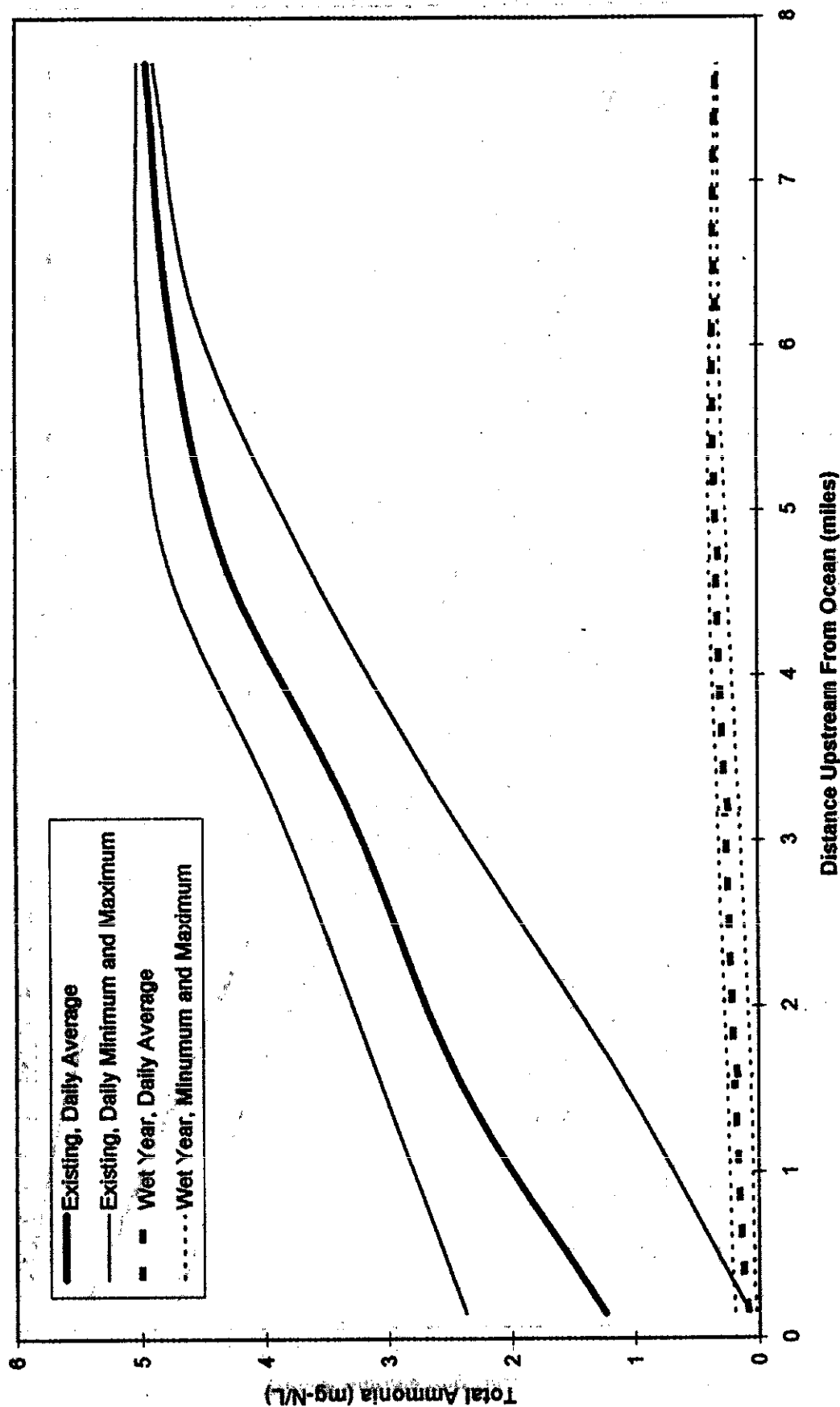


Chart1

**Figure 6-2.14. Irrigation and Storage Impacts on Ammonia In Estero de San A
Spring Inflow and Bar-Open Conditions**

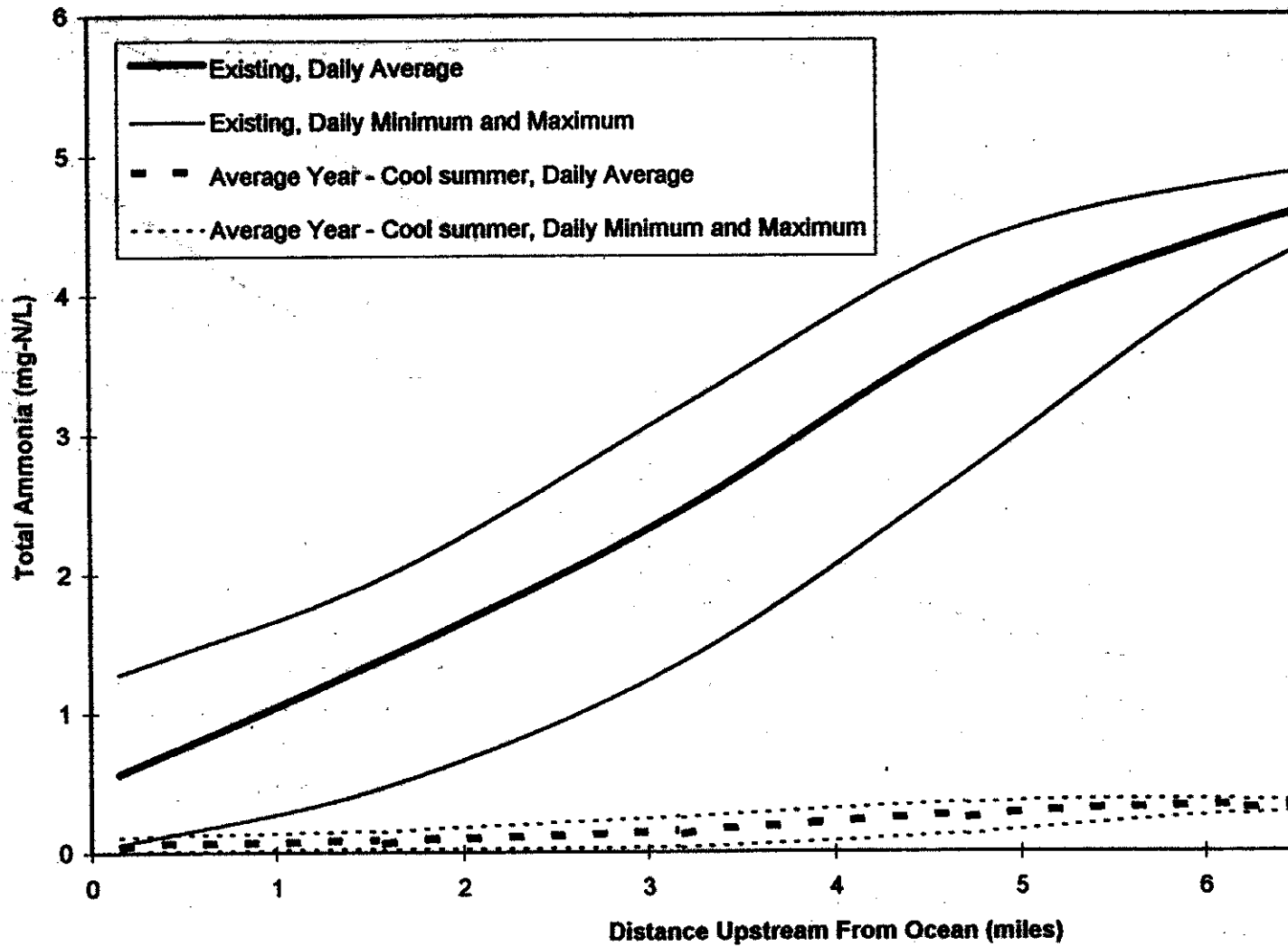
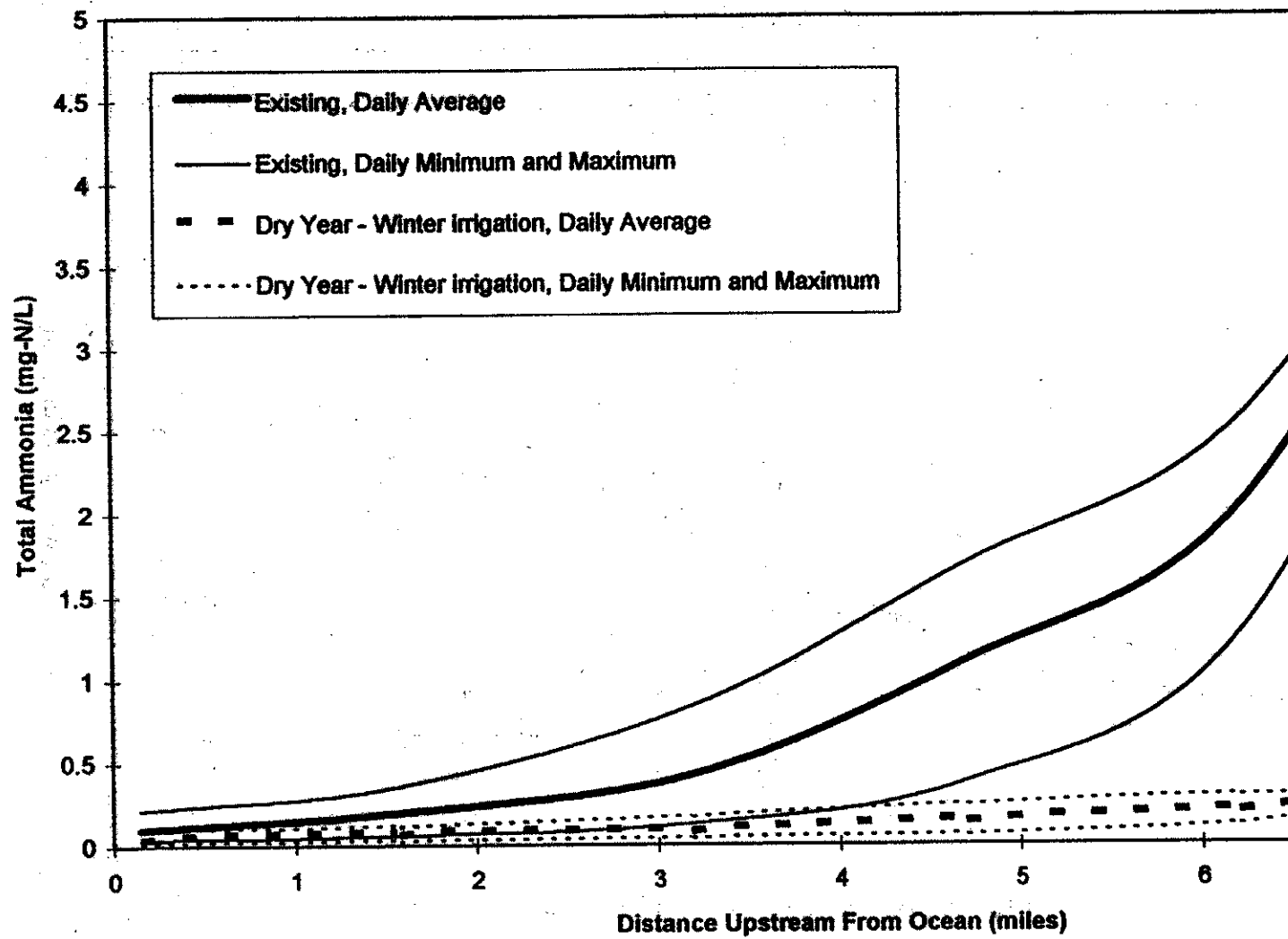
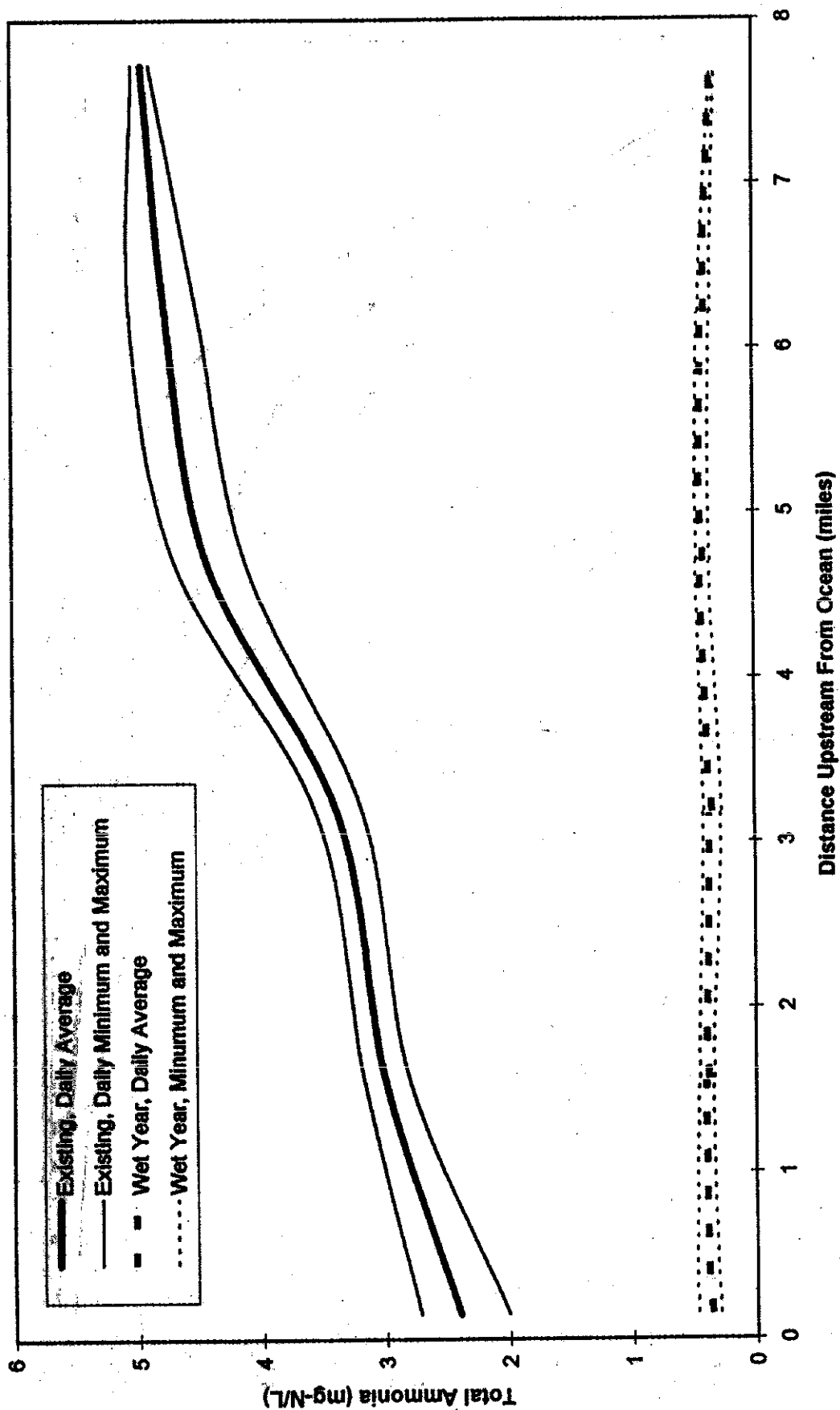


Chart3

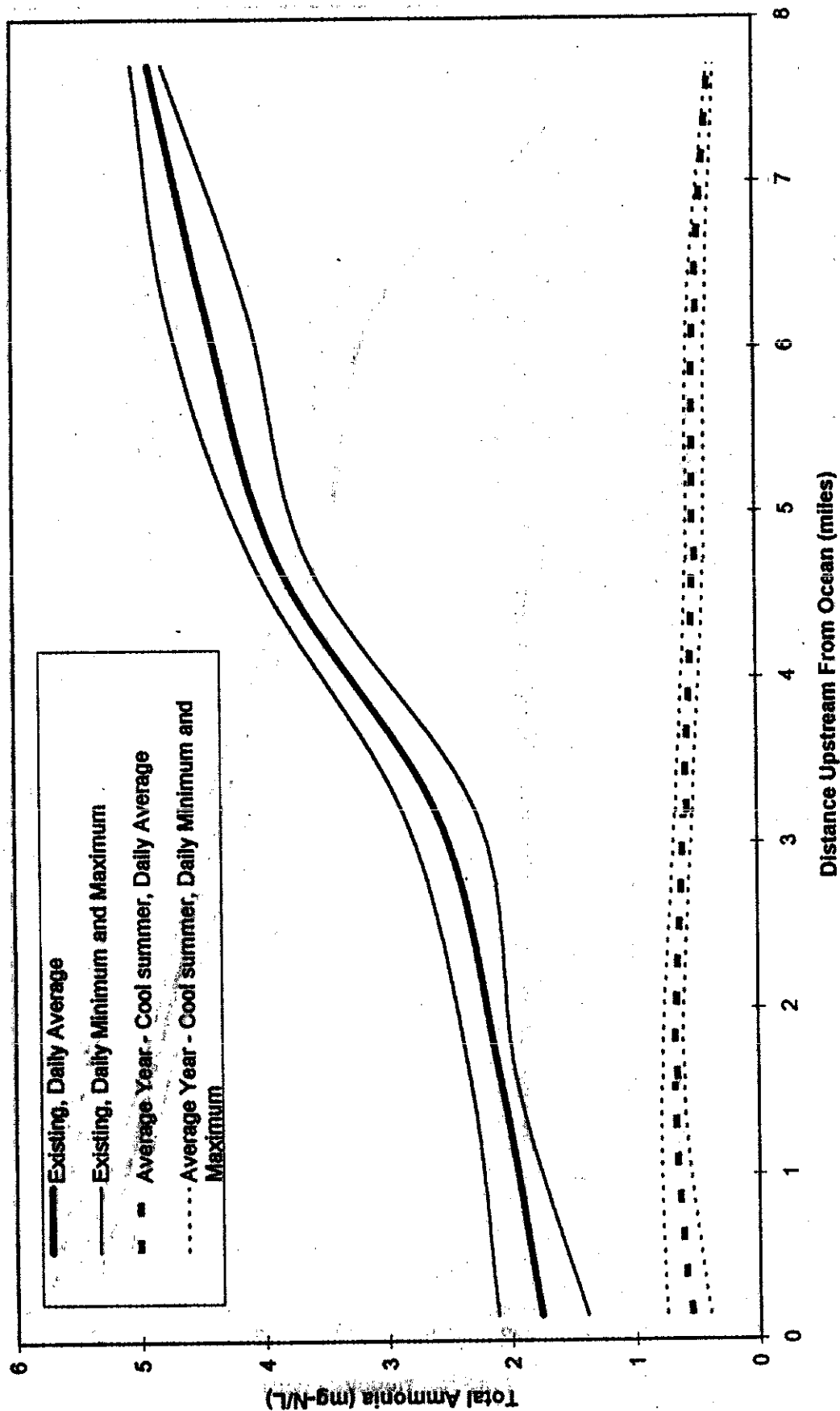
**Figure 6-2.15. Irrigation and Storage Impacts on Ammonia In Estero de San Antonio Under
Spring Inflow and Bar-Open Conditions**



**Figure 6-2.16. Irrigation and Storage Impacts on Ammonia In Estero de San Antonio
Spring Inflow and Bar-Closed Conditions**



**Figure 6-2.17. Irrigation and Storage Impacts on Ammonia in Estero de San Antonio
Spring Inflow and Bar-Closed Conditions**



**Figure 6-2.18. Irrigation and Storage Impacts on Ammonia In Estero de San Antonio
Spring Inflow and Bar-Closed Conditions**

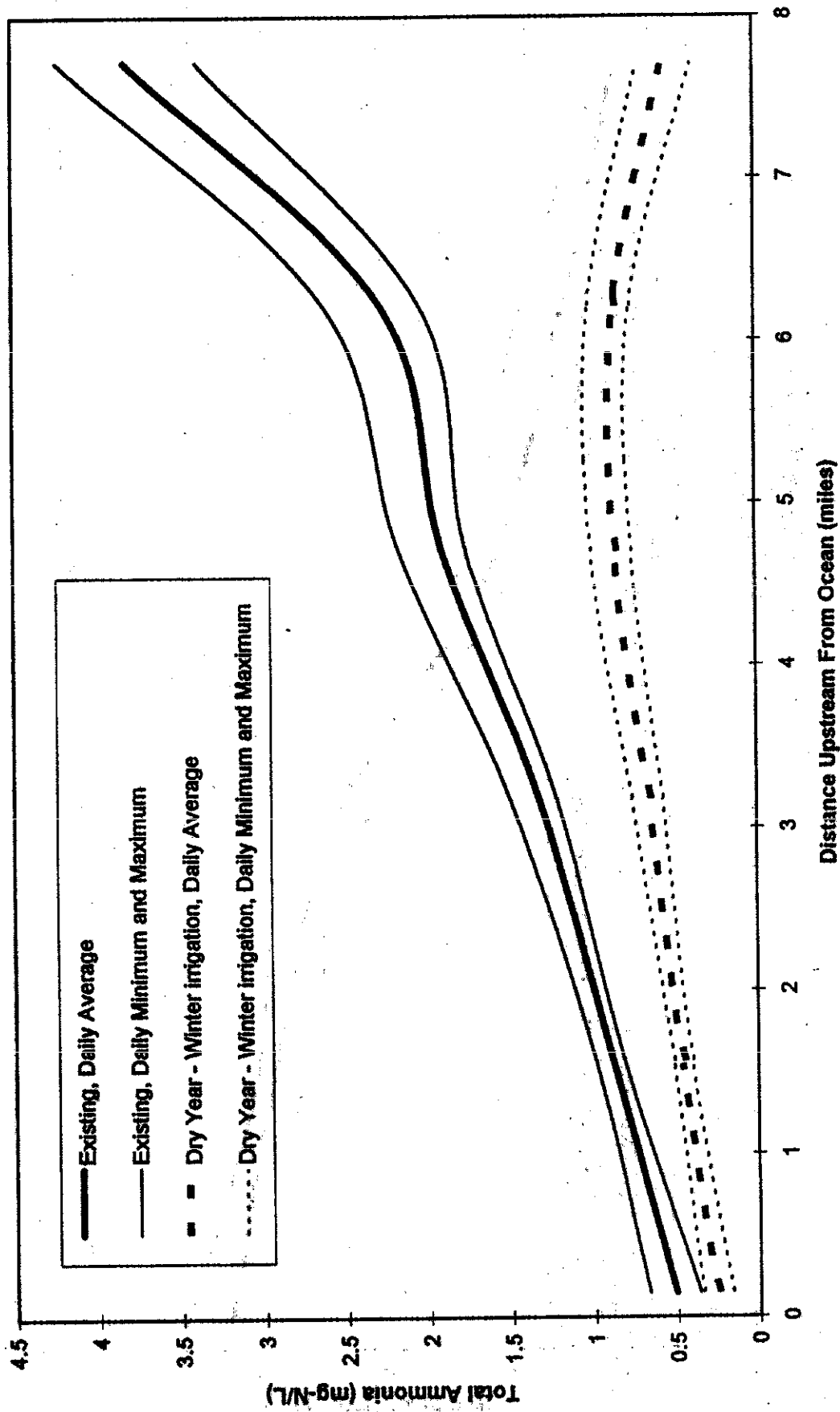
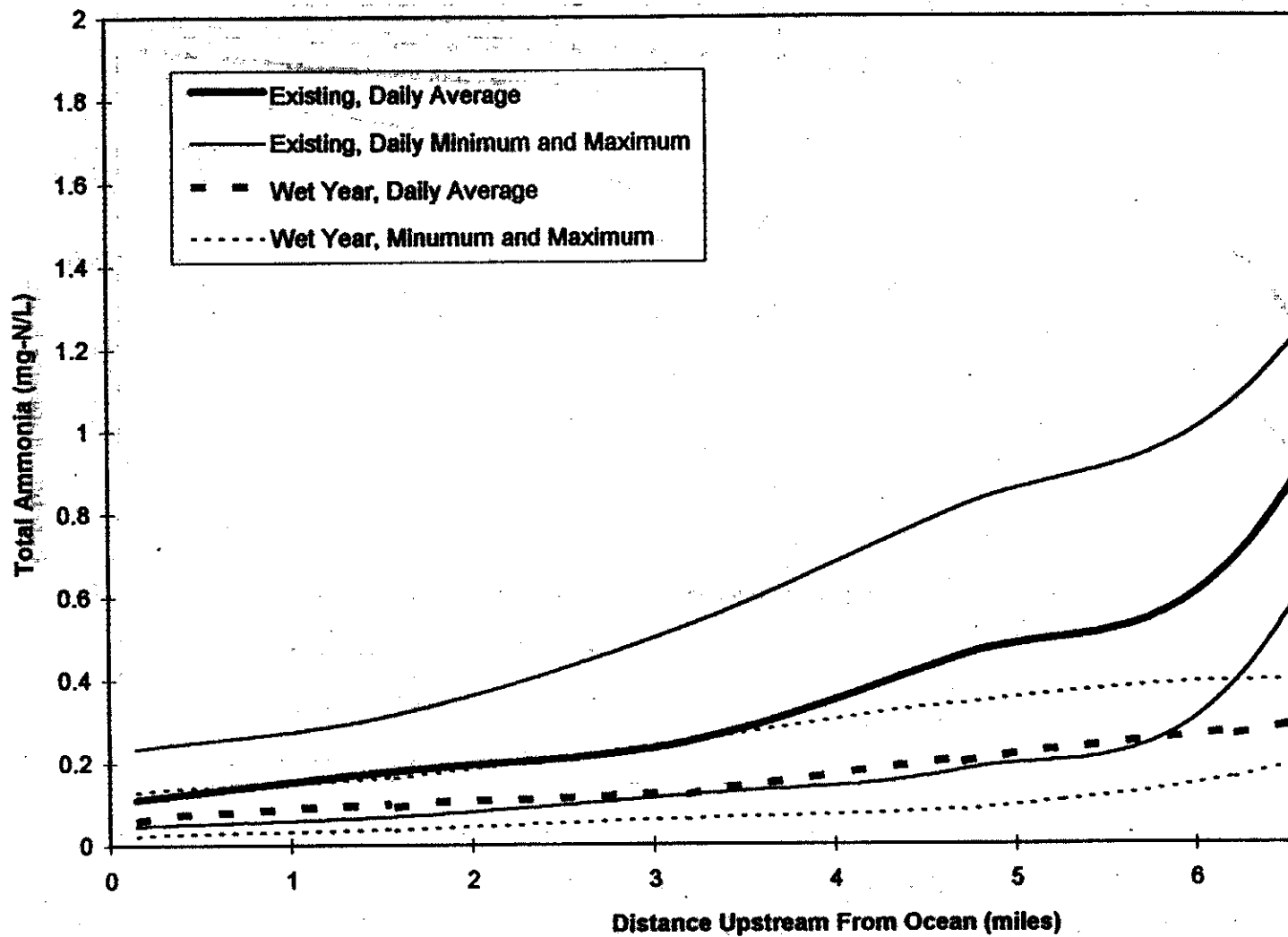
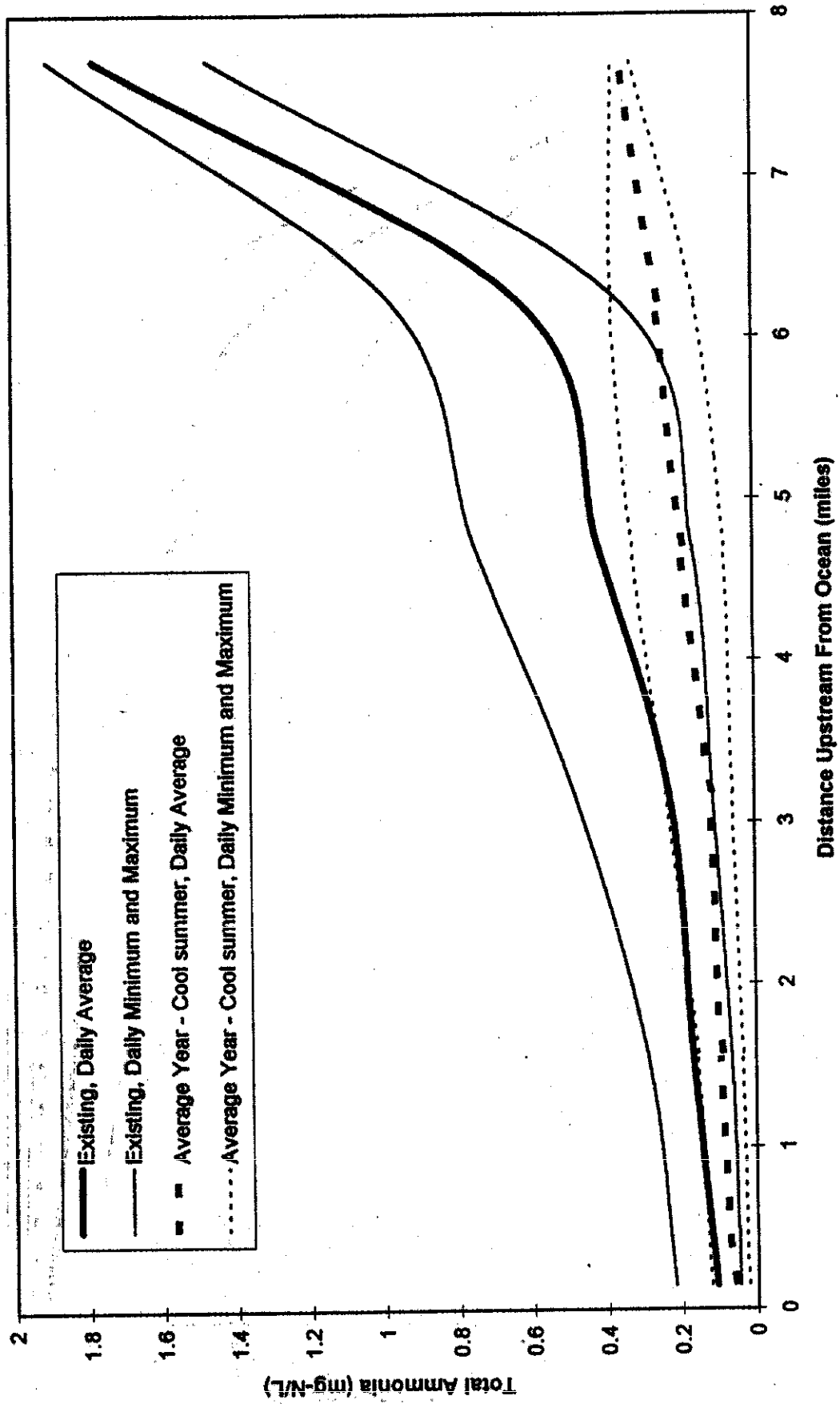


Chart6

**Figure 6-2.19. Irrigation and Storage Impacts on Ammonia In Estero de San Ant
Summer Inflow and Bar-Open Conditions**



**Figure 6-2.20. Irrigation and Storage Impacts on Ammonia in Estero de San Antonio
Summer Inflow and Bar-Open Conditions**



**Figure 6-2.21. Irrigation and Storage Impacts on Ammonia in Estero de San Antonio
Summer Inflow and Bar-Open Conditions**

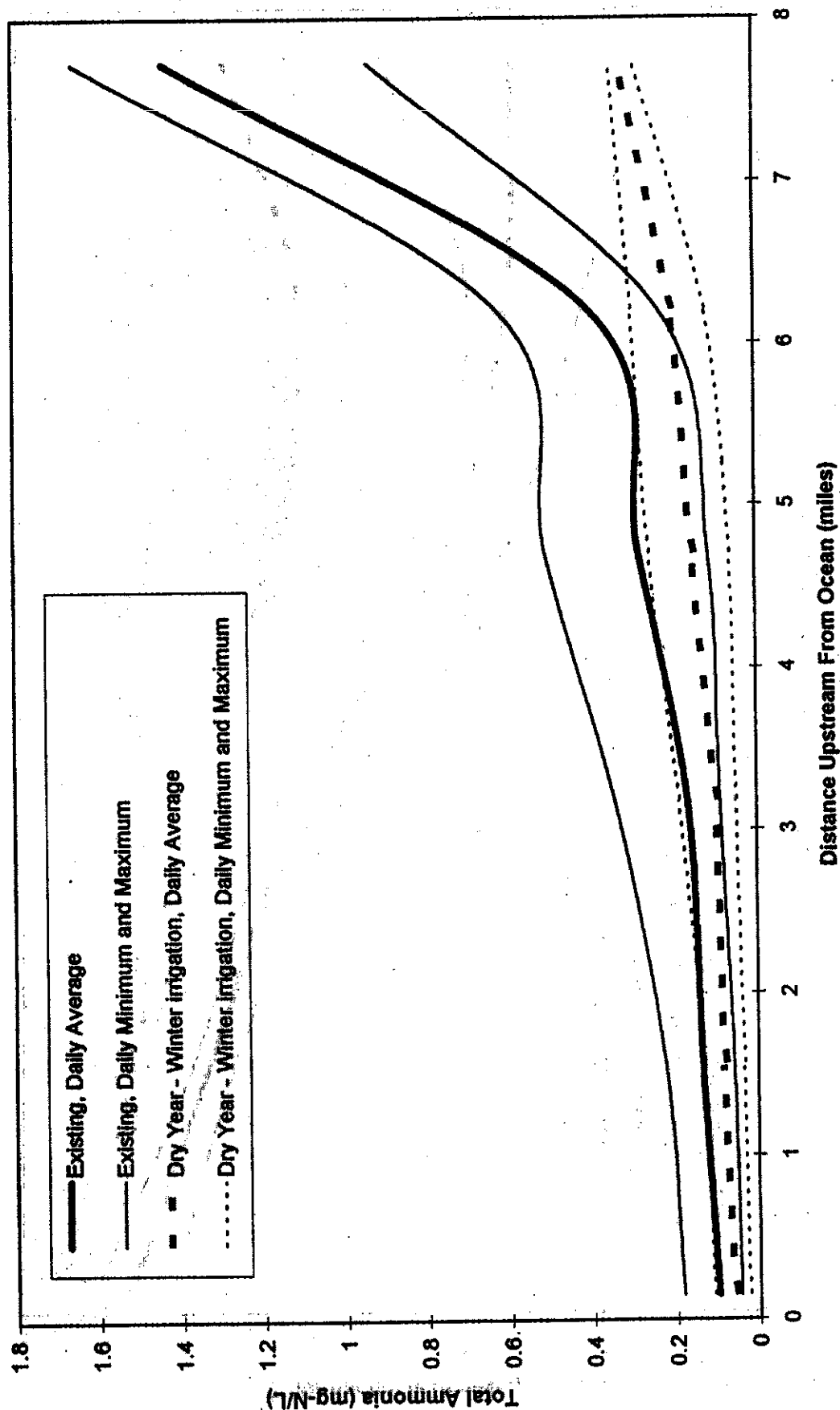


Figure 6-2.22. Irrigation and Storage Impacts on Ammonia In Estero de San Antonio
Summer Inflow and Bar-Closed Conditions

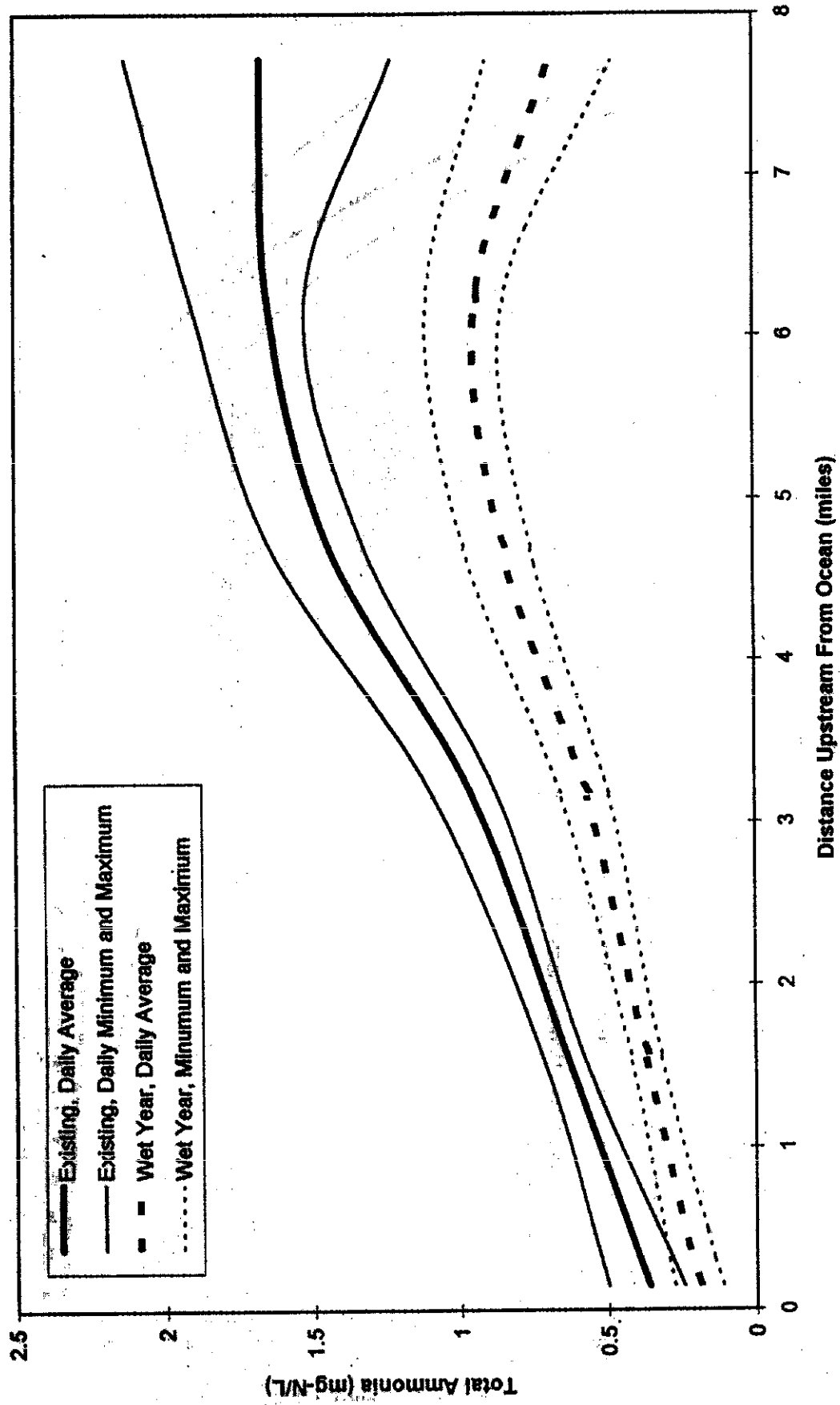
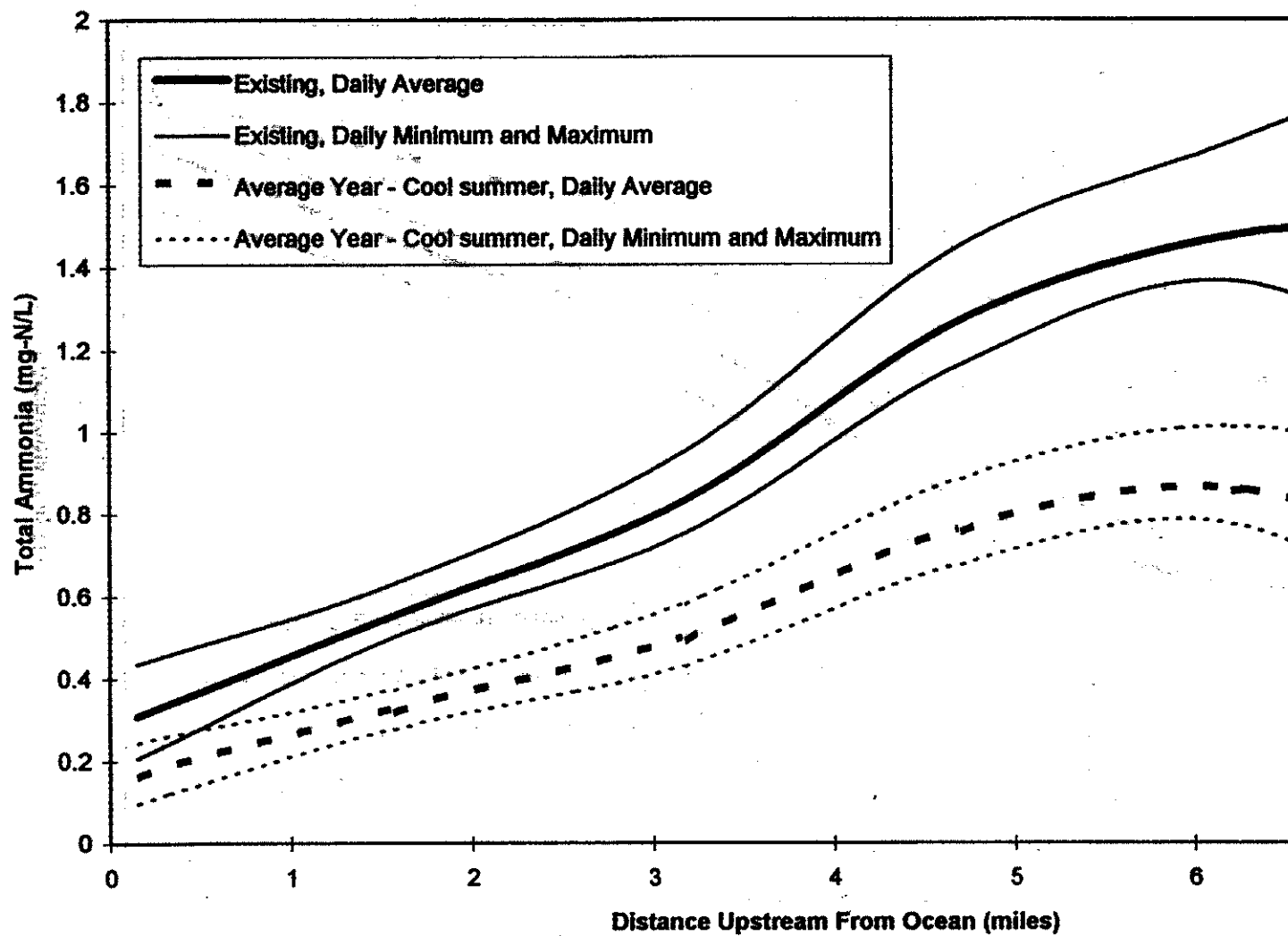


Chart2

**Figure 6-2.23. Irrigation and Storage Impacts on Ammonia In Estero de San A
Summer Inflow and Bar-Closed Conditions**



**Figure 6-2.24. Irrigation and Storage Impacts on Ammonia In Estero de San Antonio
Summer Inflow and Bar-Closed Conditions**

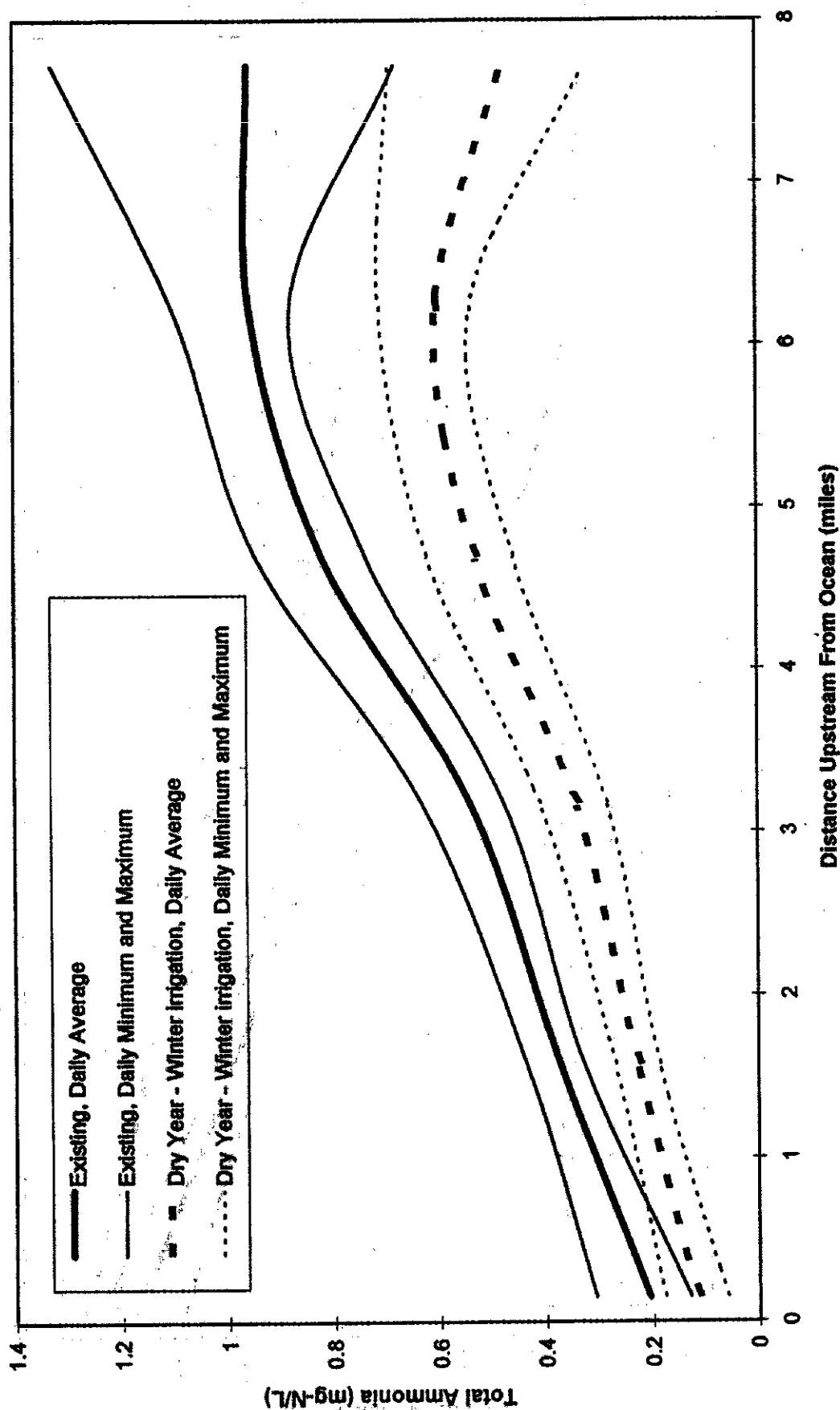


Chart5

**Figure 6-3.1. Irrigation and Storage Impacts on Planktonic Algae In Estero Ame
Spring Inflow and Bar-Open Conditions**

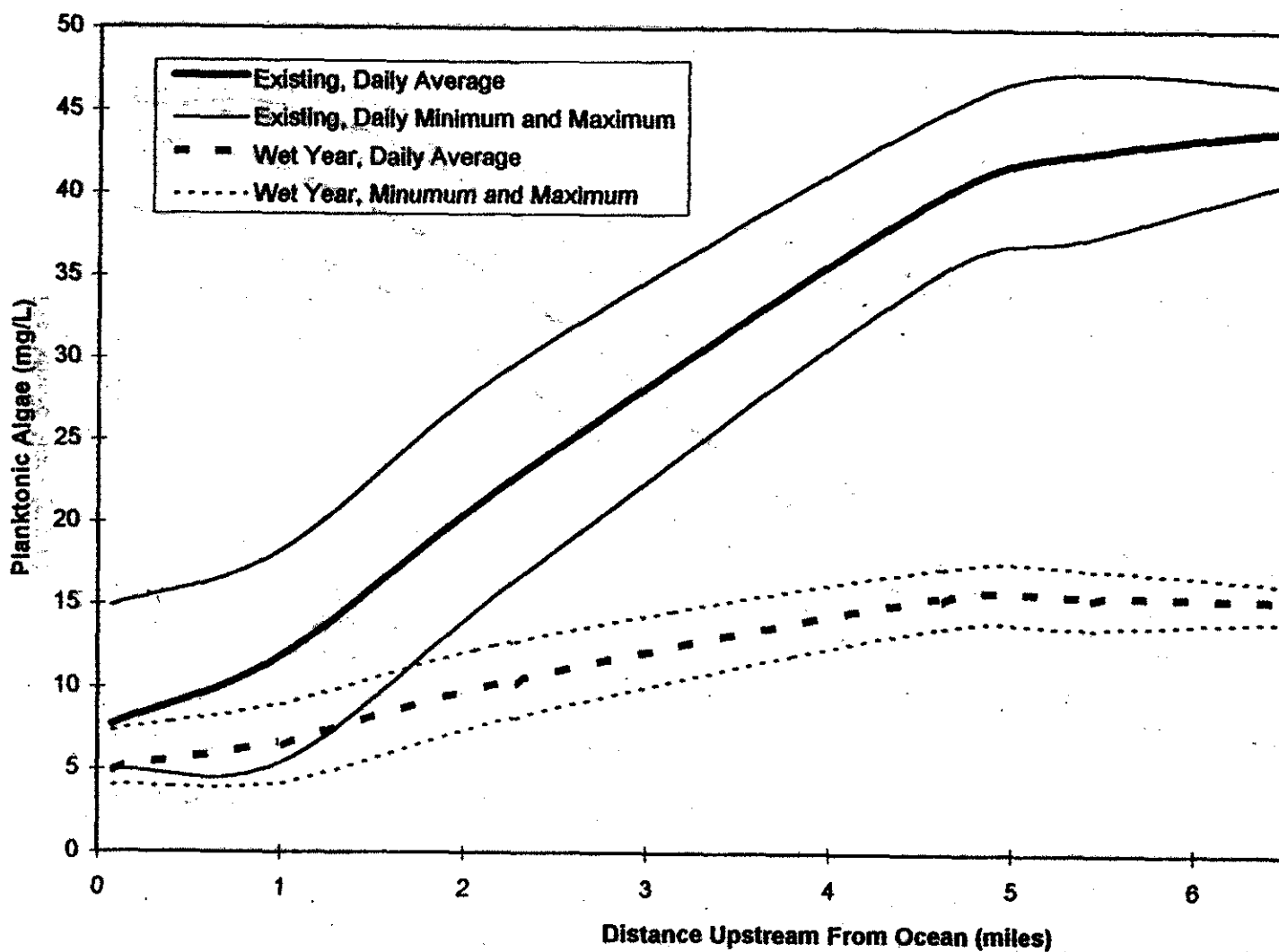
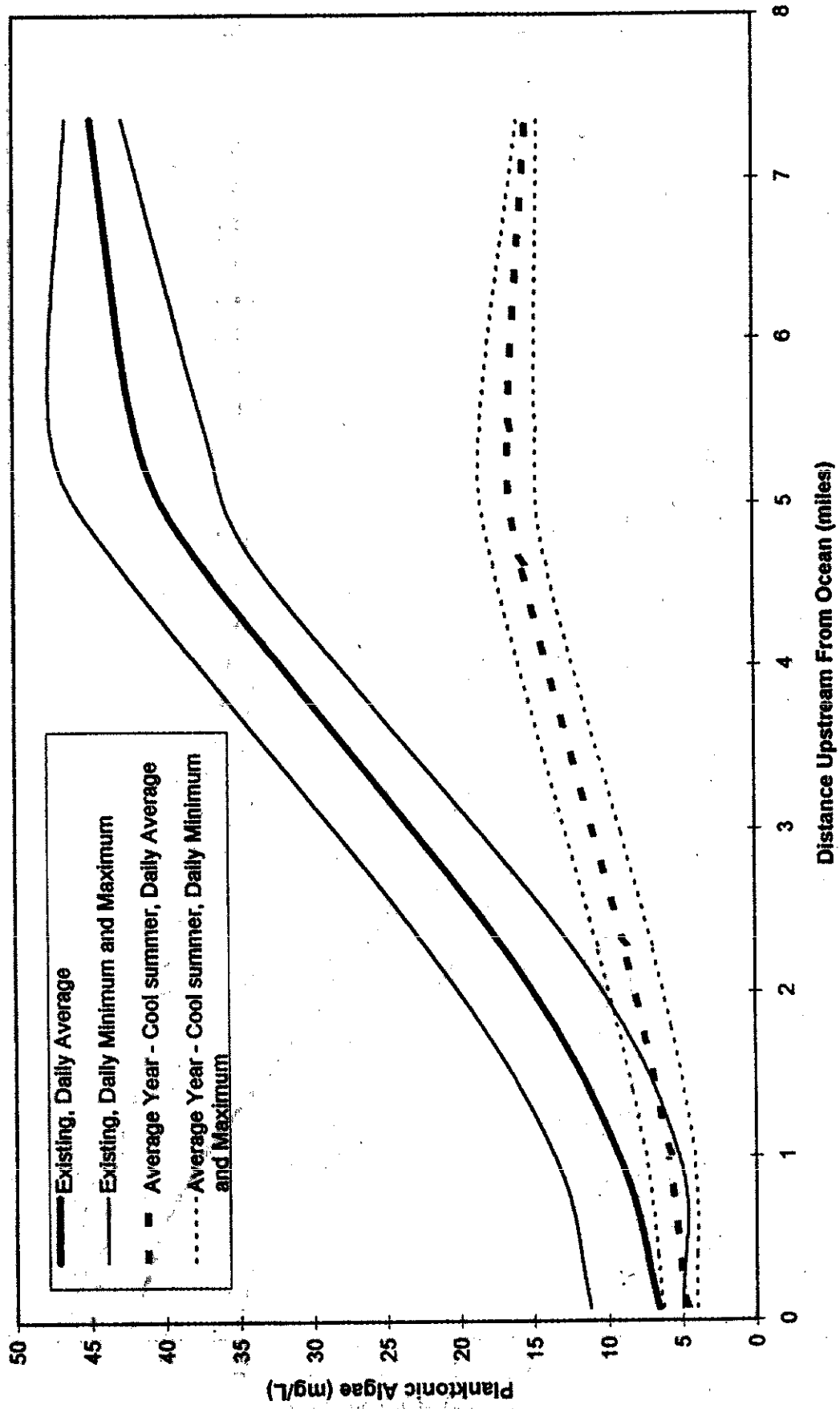


Figure 6-3.2. Irrigation and Storage Impacts on Planktonic Algae In Estero Americano
Spring Inflow and Bar-Open Conditions



**Figure 6-3.3. Irrigation and Storage Impacts on Planktonic Algae In Estero Americano
Spring Inflow and Bar-Open Conditions**

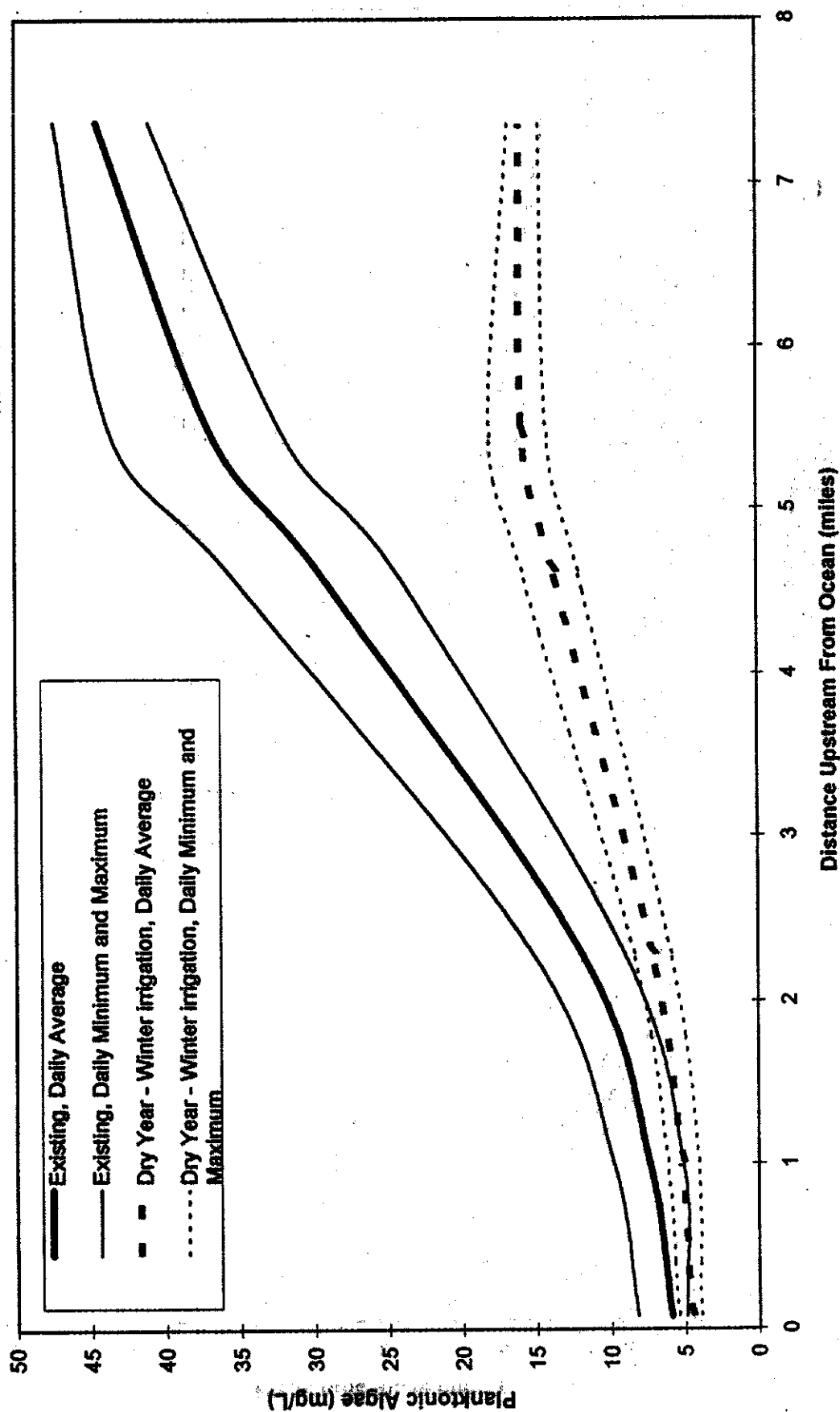


Figure 6-3.4. Irrigation and Storage Impacts on Planktonic Algae In Estero Americano
Spring Inflow and Bar-Closed Conditions

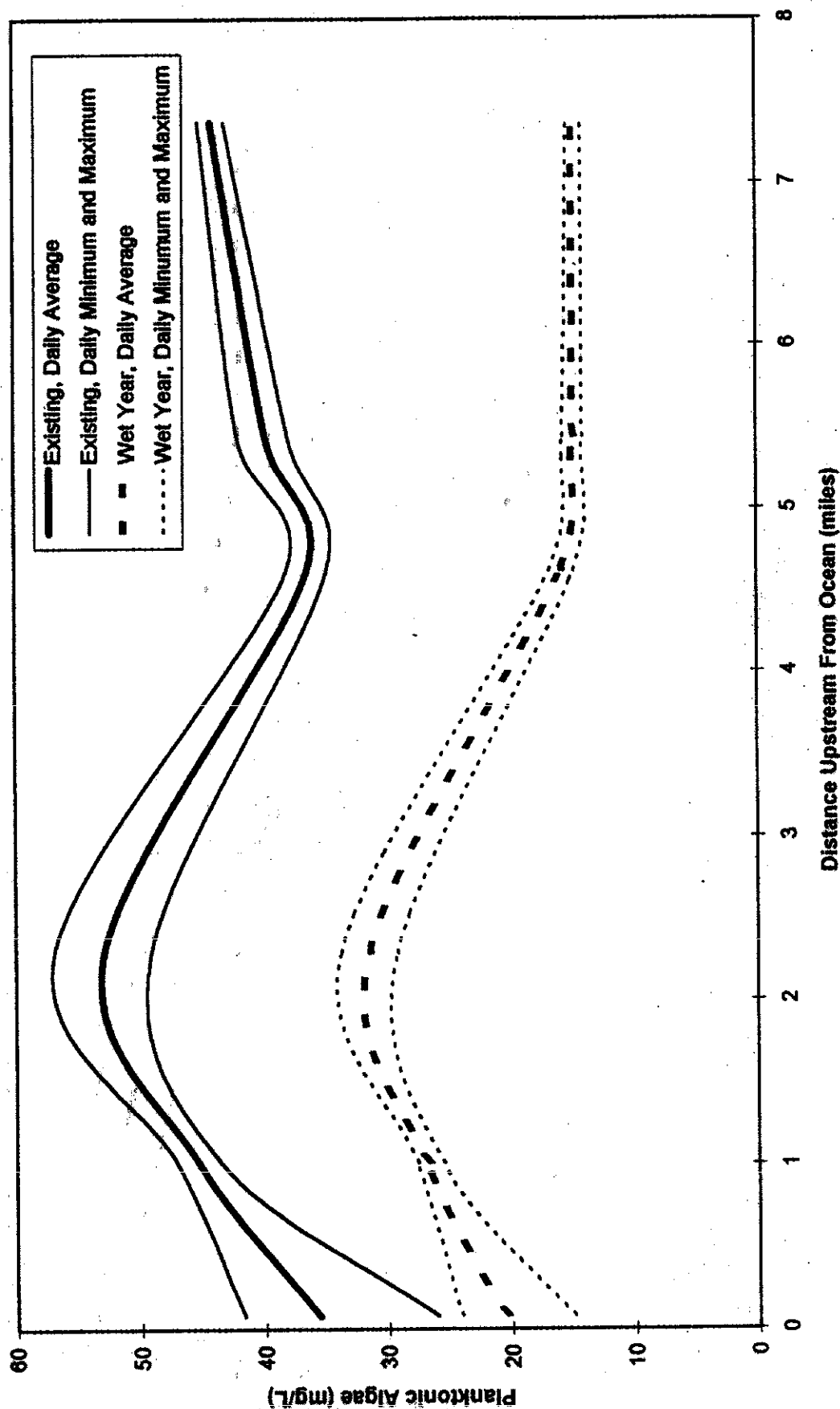


Figure 6-3.5. Irrigation and Storage Impacts on Planktonic Algae In Estero Americano
Spring Inflow and Bar-Closed Conditions

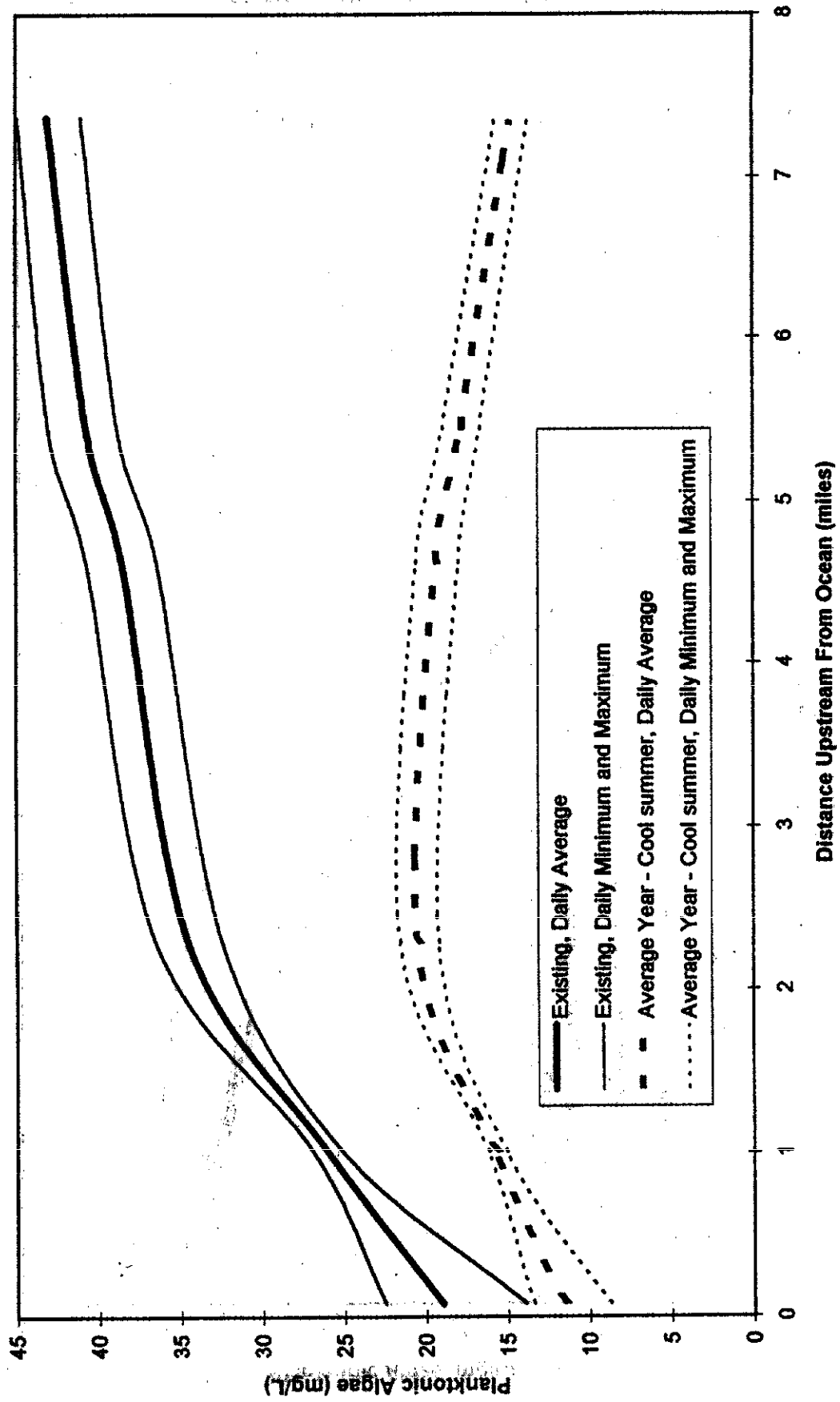
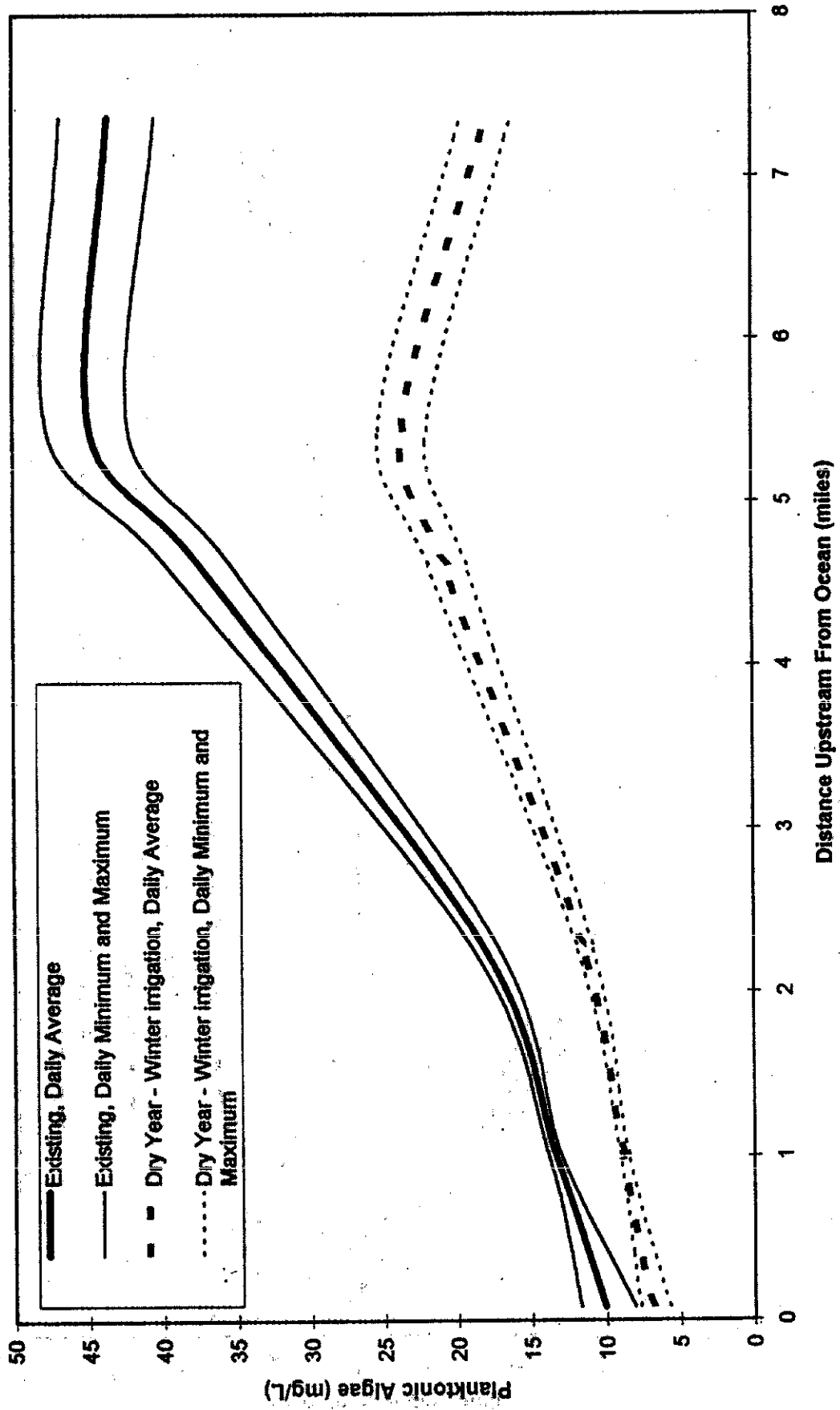


Figure 6-3.6. Irrigation and Storage Impacts on Planktonic Algae In Estero Americano
Spring Inflow and Bar-Closed Conditions



**Figure 6-3.7. Irrigation and Storage Impacts on Planktonic Algae In Estero Americano
Summer Inflow and Bar-Open Conditions**

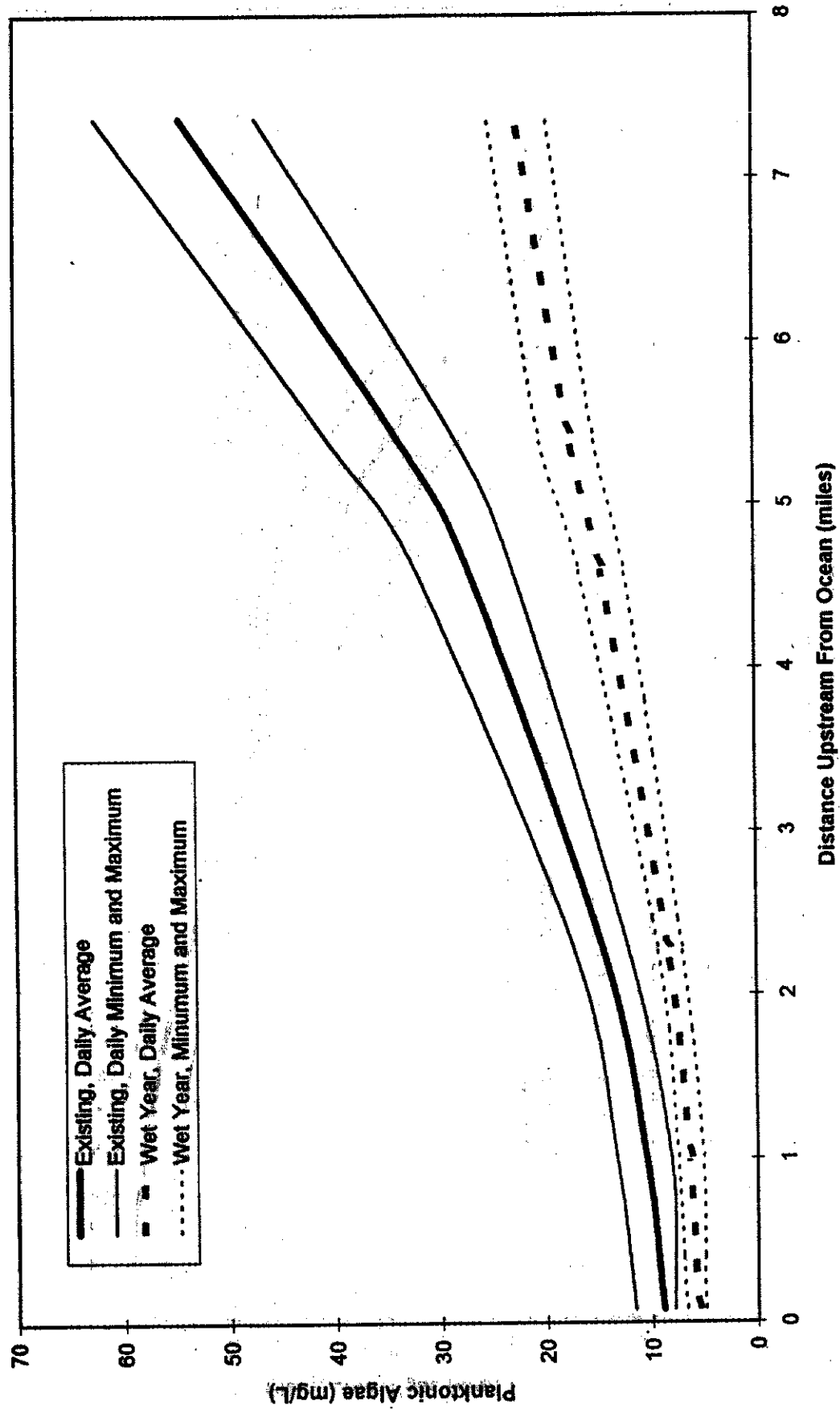
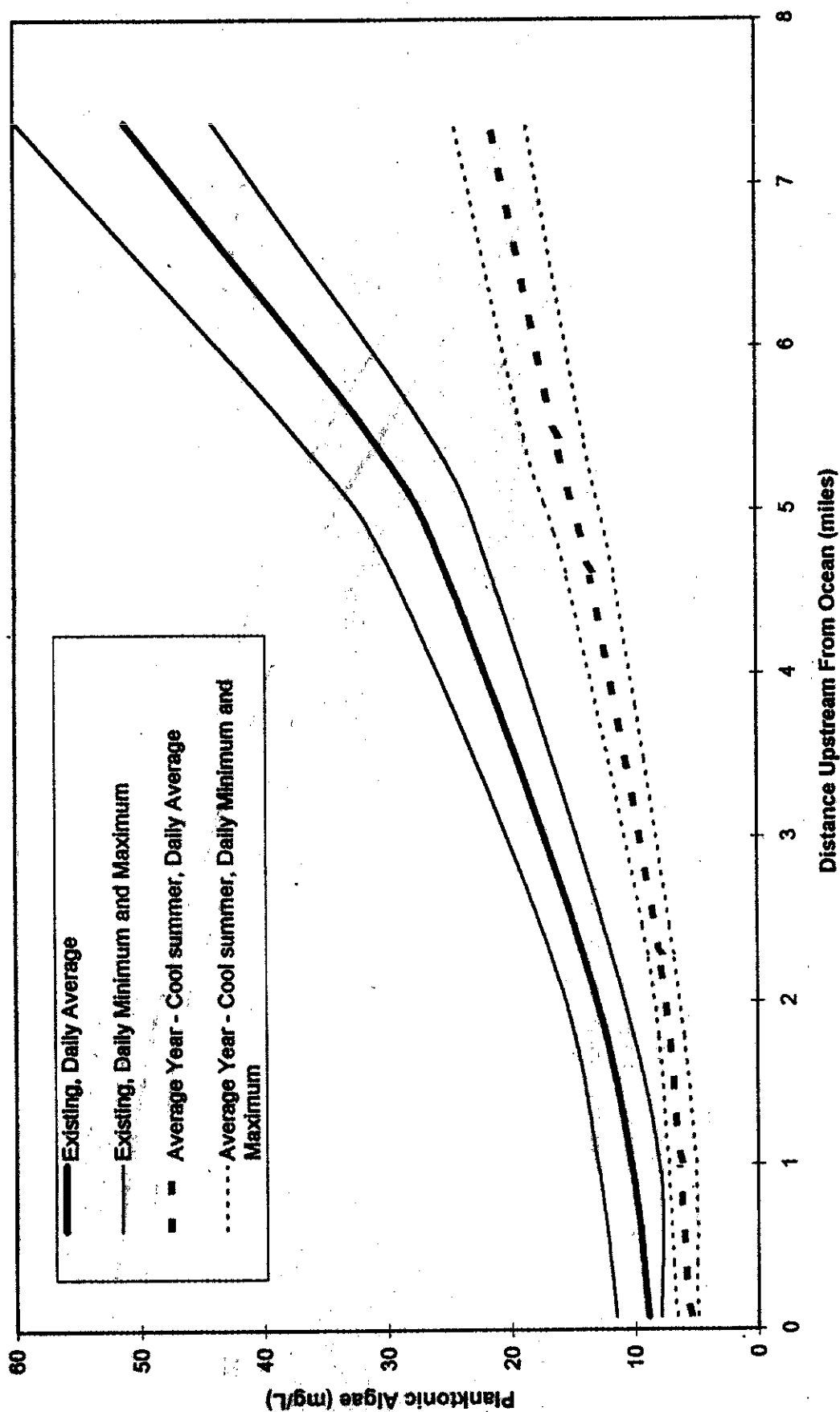


Figure 6-3.8. Irrigation and Storage Impacts on Planktonic Algae in Estero Americano
Summer Inflow and Bar-Open Conditions



**Figure 6-3.9. Irrigation and Storage Impacts on Planktonic Algae In Estero Americano
Summer Inflow and Bar-Open Conditions**

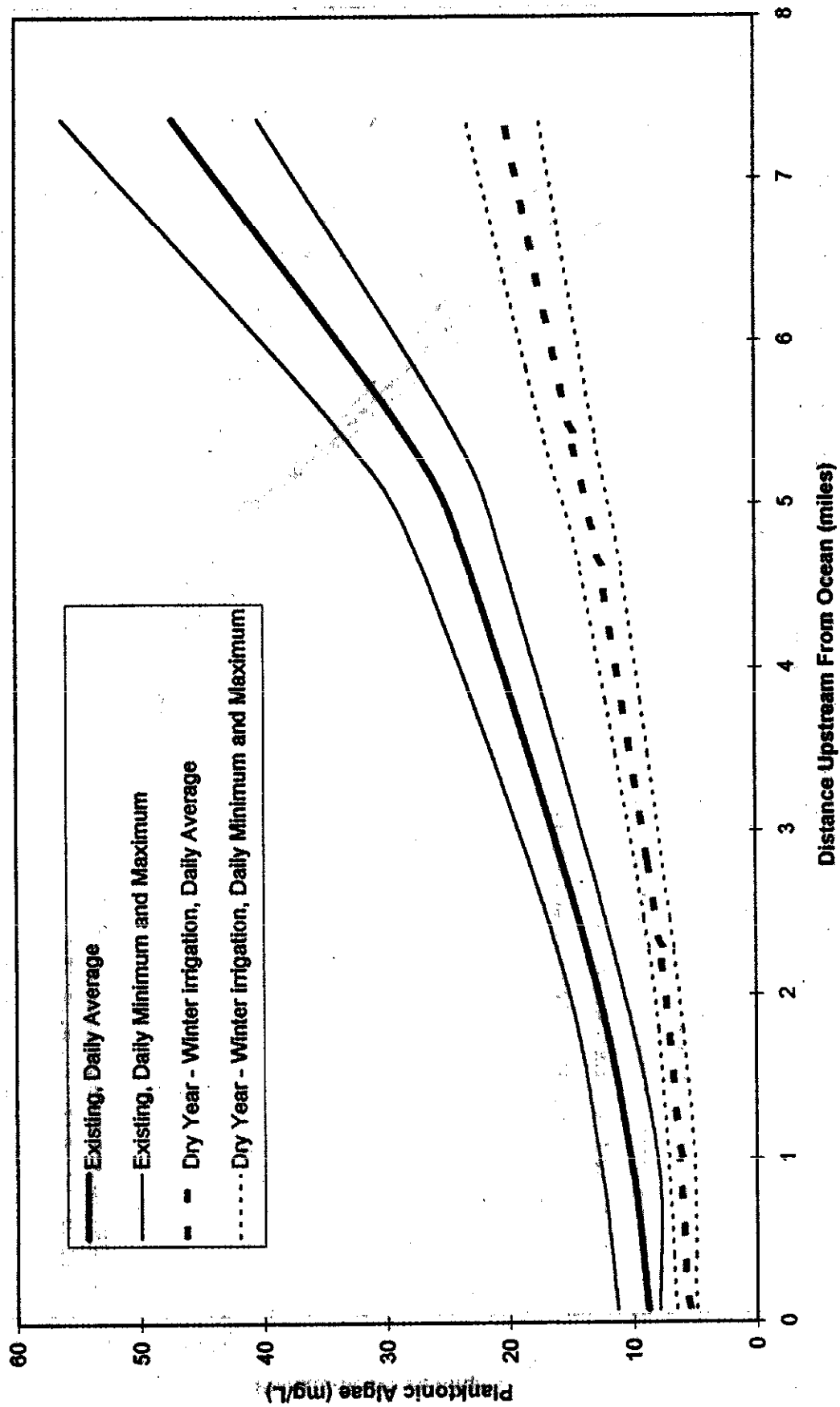
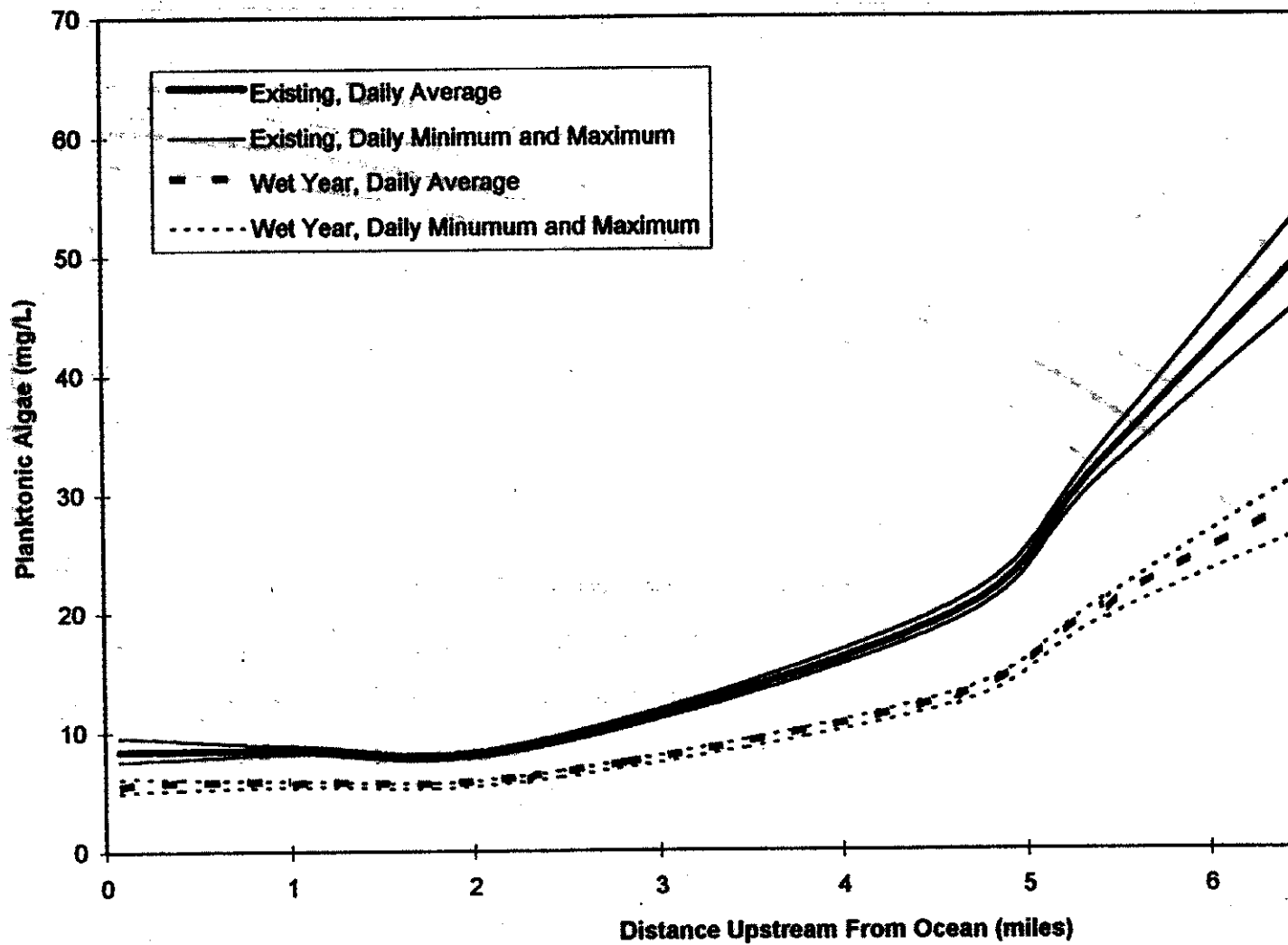
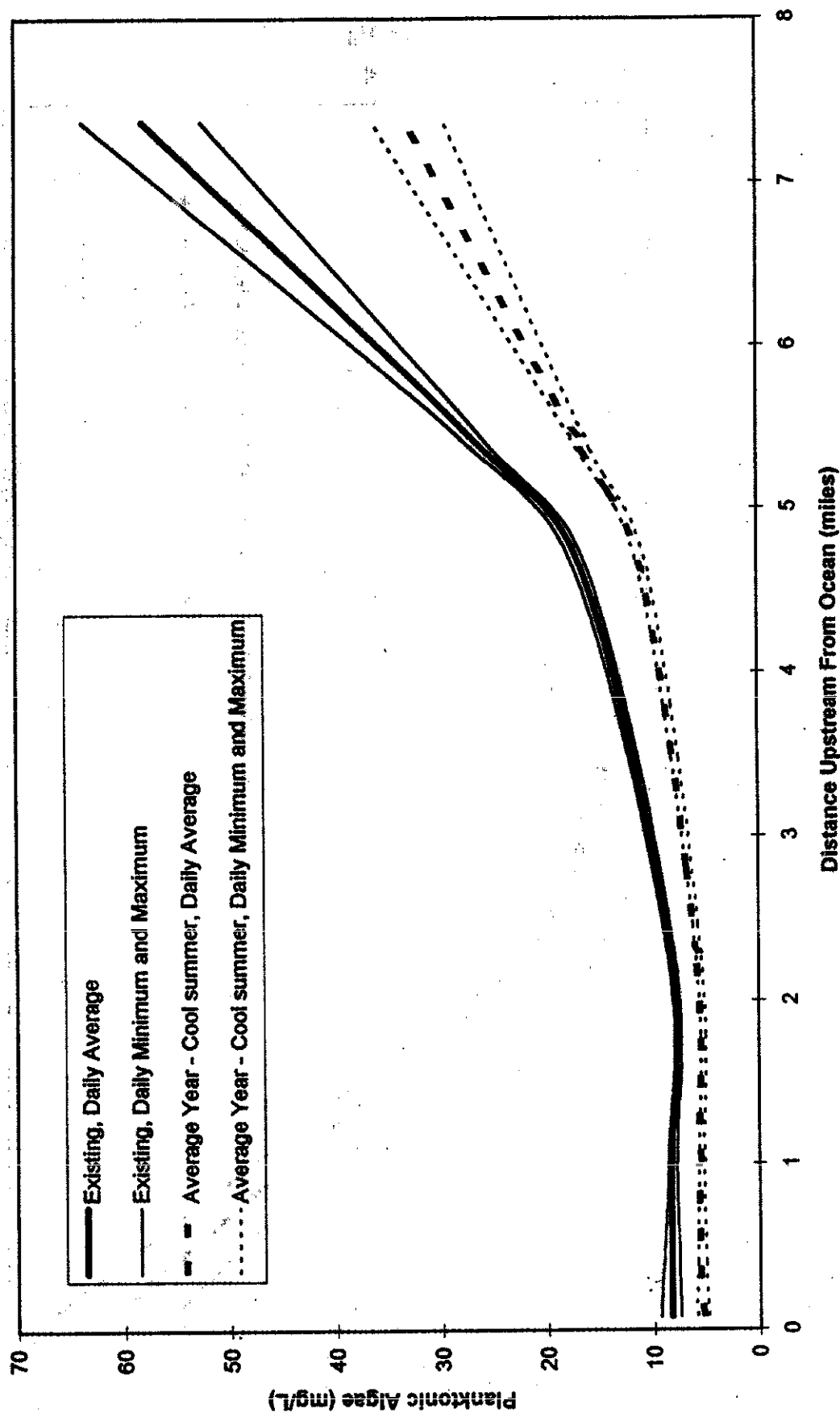


Chart6

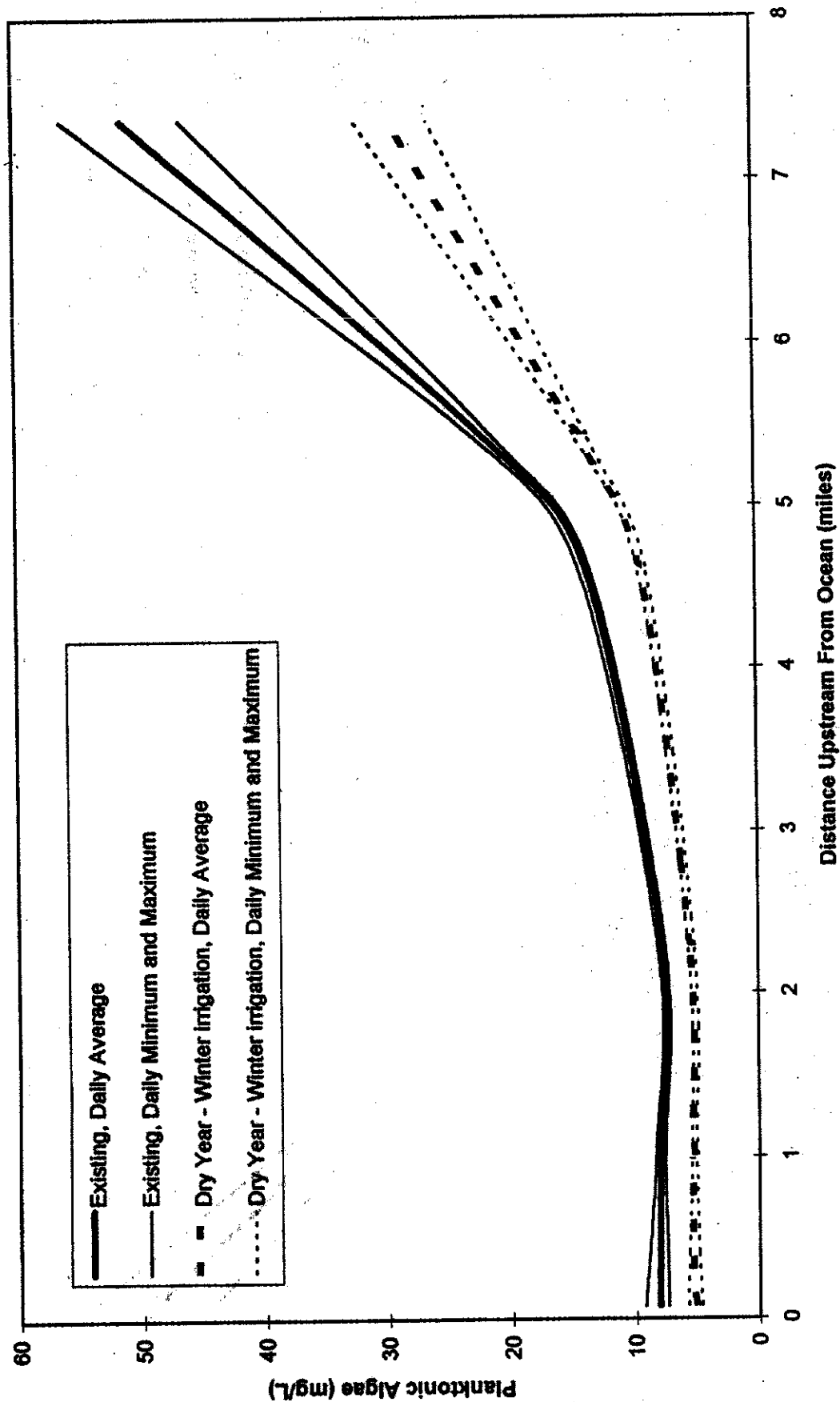
**Figure 6-3.10. Irrigation and Storage Impacts on Planktonic Algae in Estero Am
Summer Inflow and Bar-Closed Conditions**



**Figure 6-3.11. Irrigation and Storage Impacts on Planktonic Algae in Estero Americano
Summer Inflow and Bar-Closed Conditions**



**Figure 6-3.12. Irrigation and Storage Impacts on Planktonic Algae In Estero Americano
Summer Inflow and Bar-Closed Conditions**



**Figure 6-3.13. Irrigation and Storage Impacts on Planktonic Algae In Estero de San Antonio
Spring Inflow and Bar-Open Conditions**

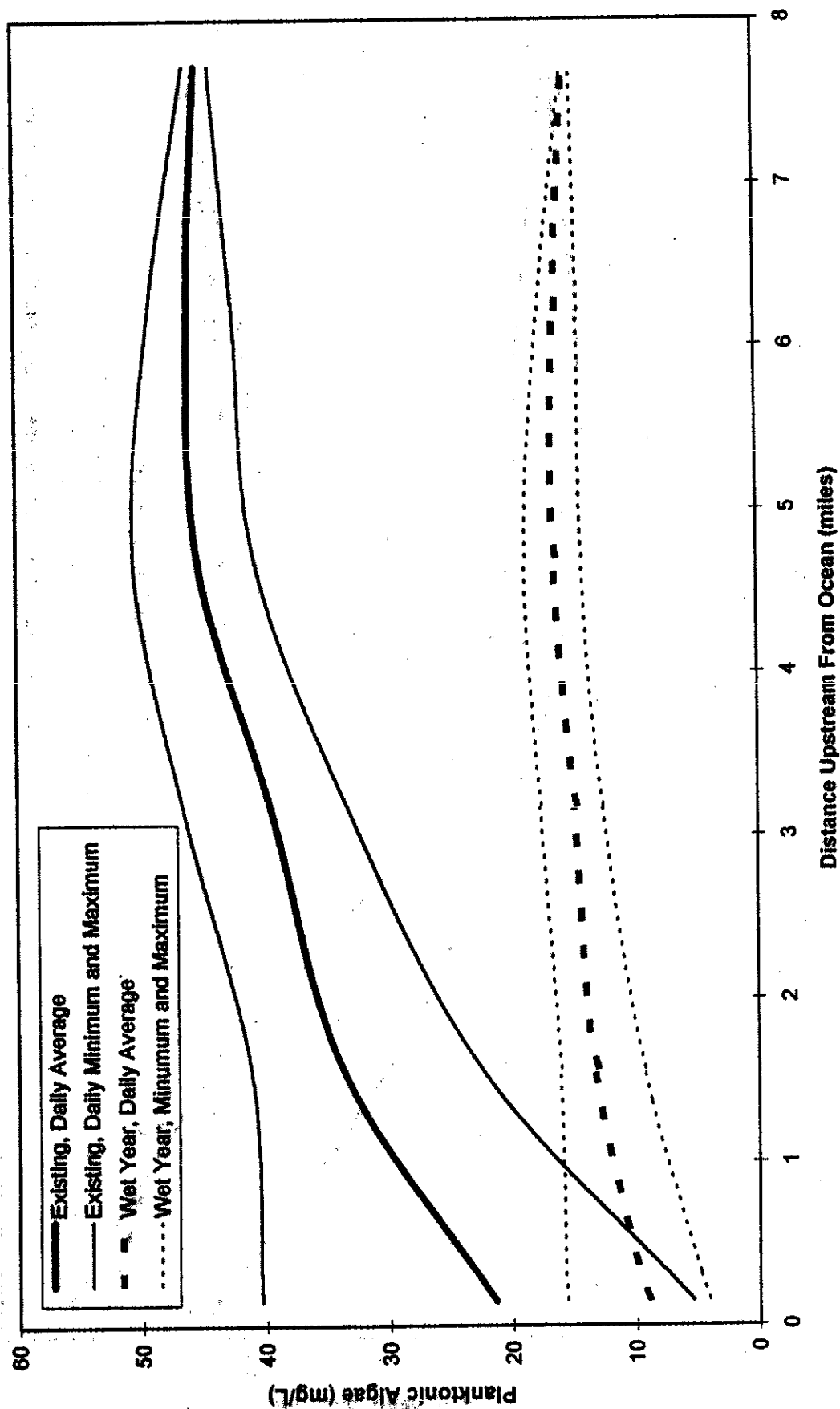
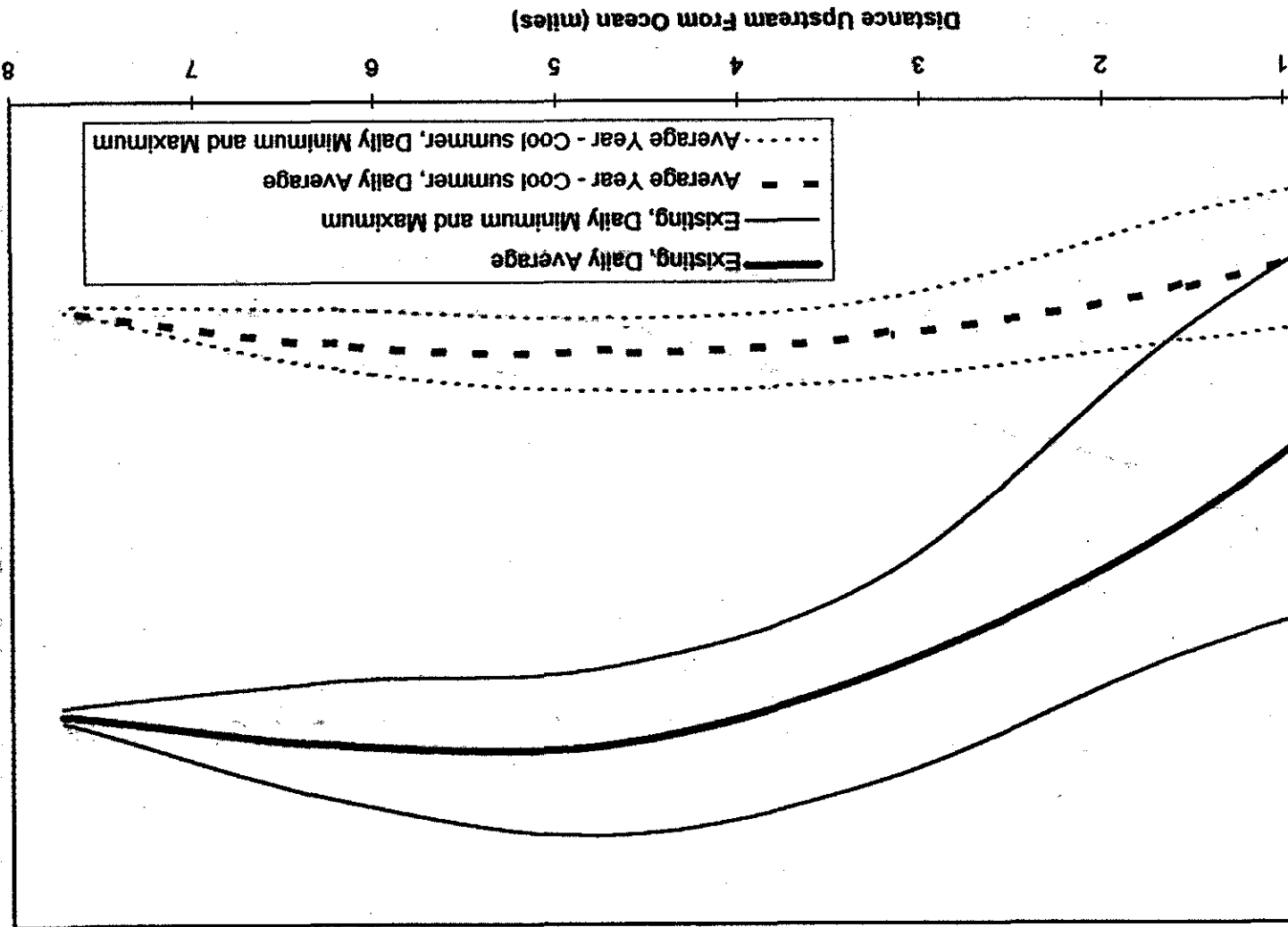


Chart1

3.14. Irrigation and Storage Impacts on Planktonic Algae in Estero de San Antonio
Spring Inflow and Bar-Open Conditions

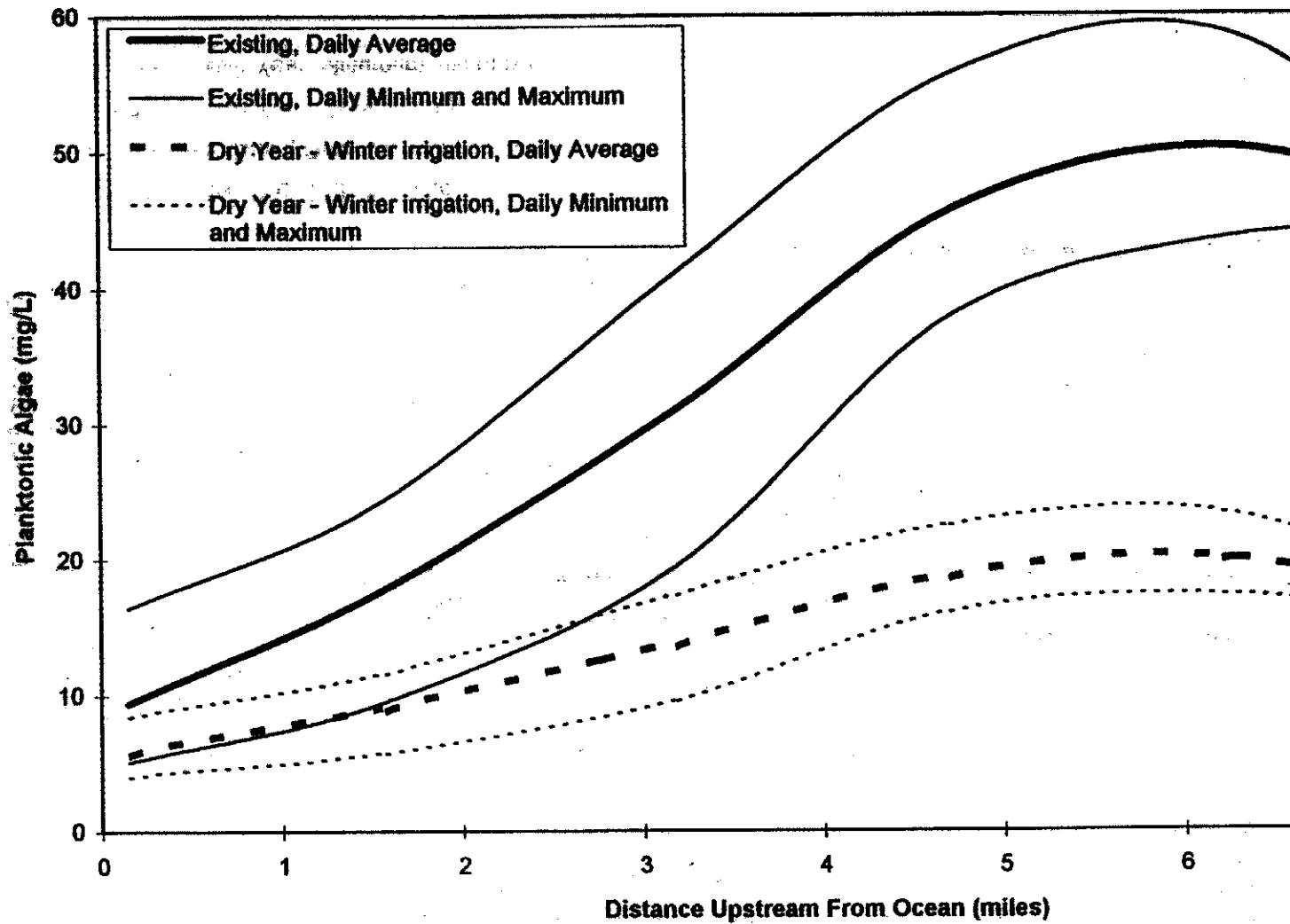


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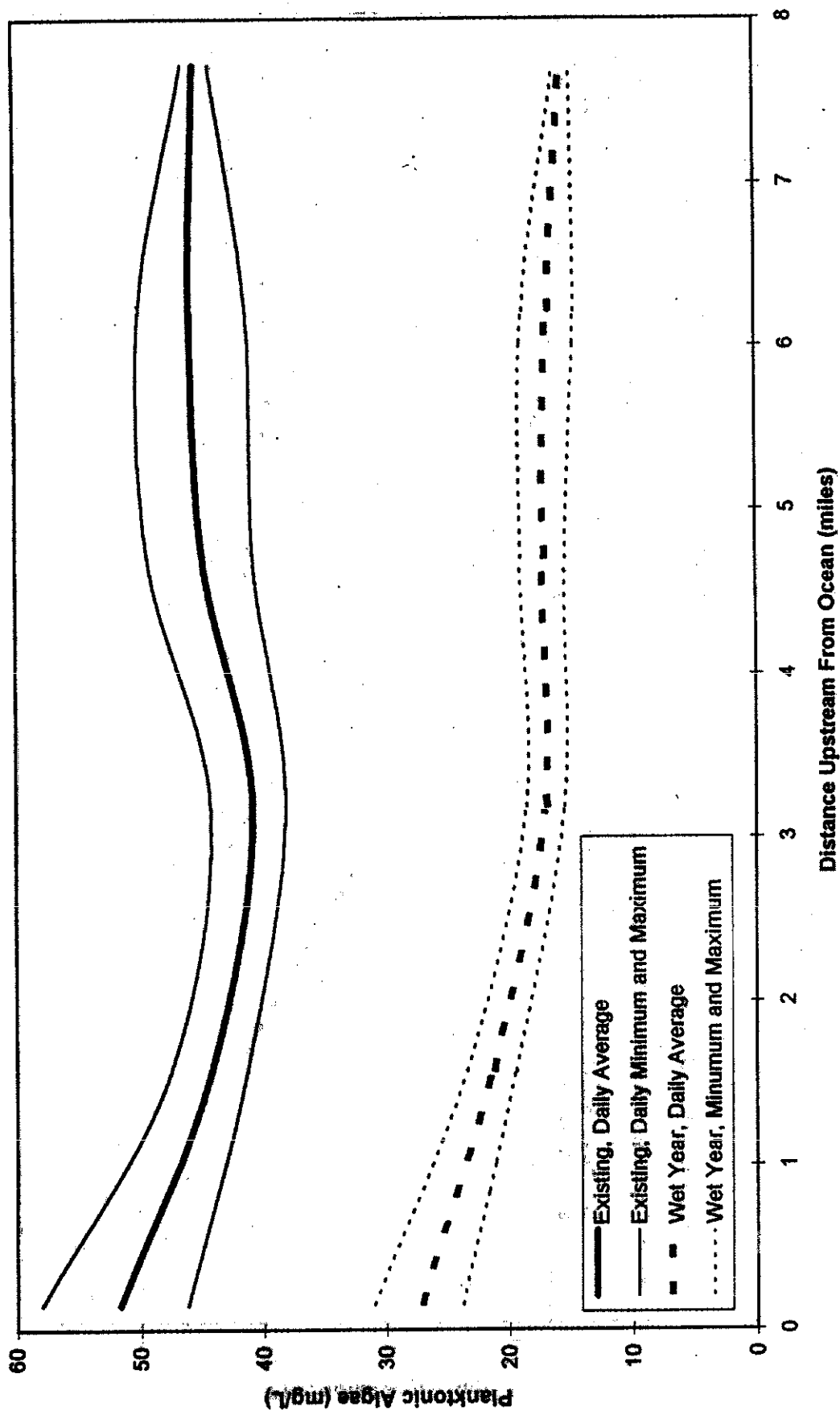
4/19/96

Chart3

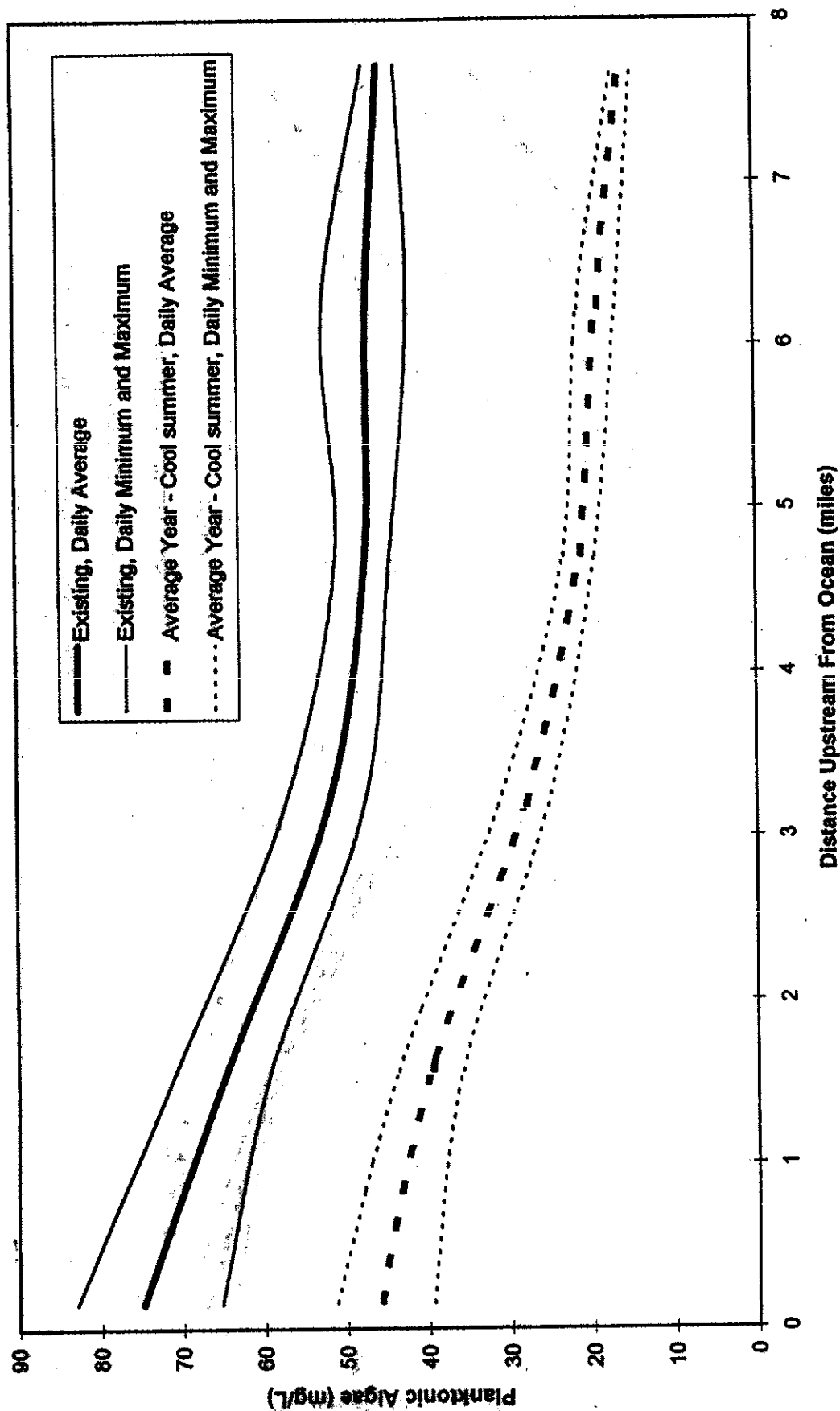
**Figure 6-3.15. Irrigation and Storage Impacts on Planktonic Algae In Estero de San A
Spring Inflow and Bar-Open Conditions**



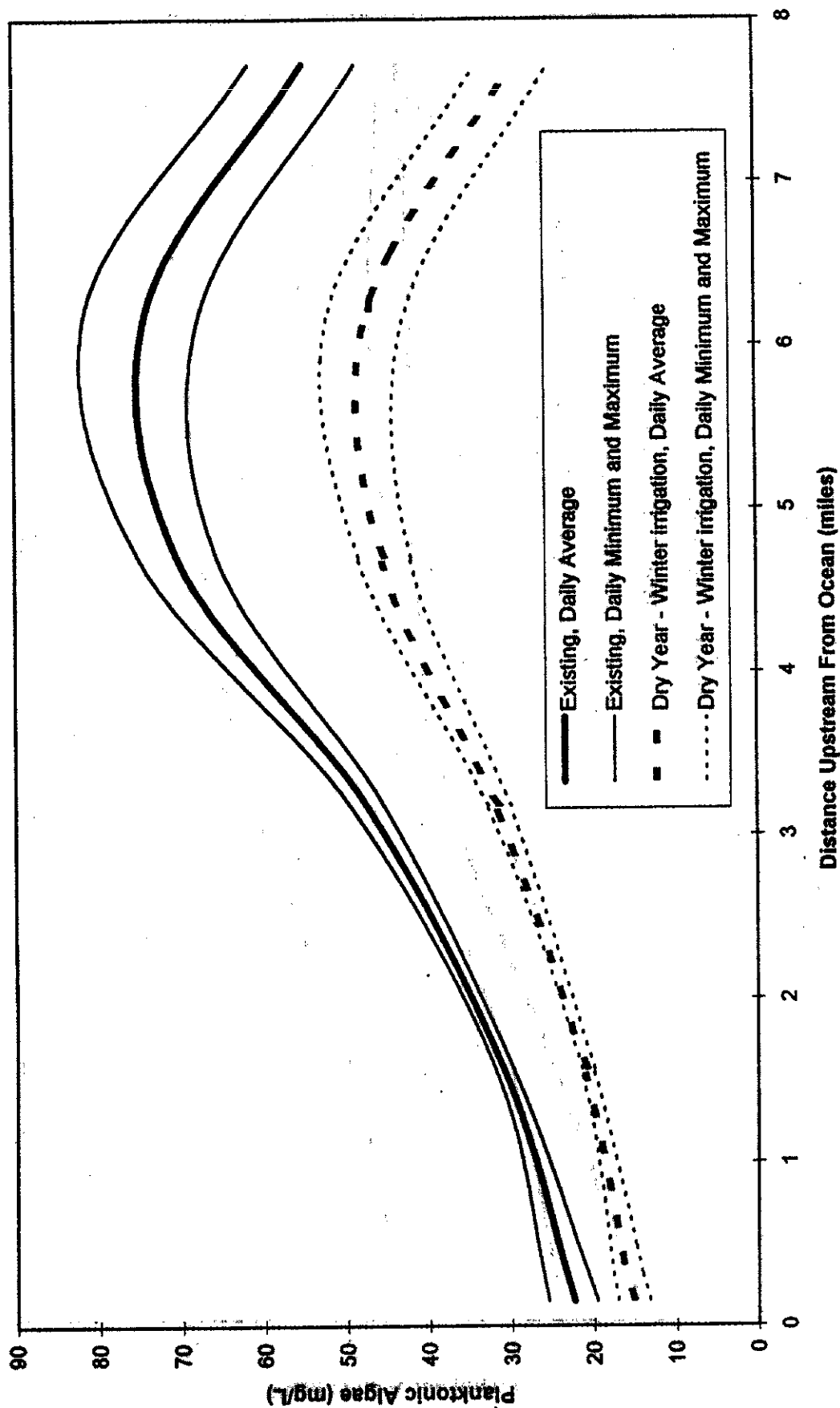
**Figure 6-3.16. Irrigation and Storage Impacts on Planktonic Algae in Estero de San Antonio
Spring Inflow and Bar-Closed Conditions**



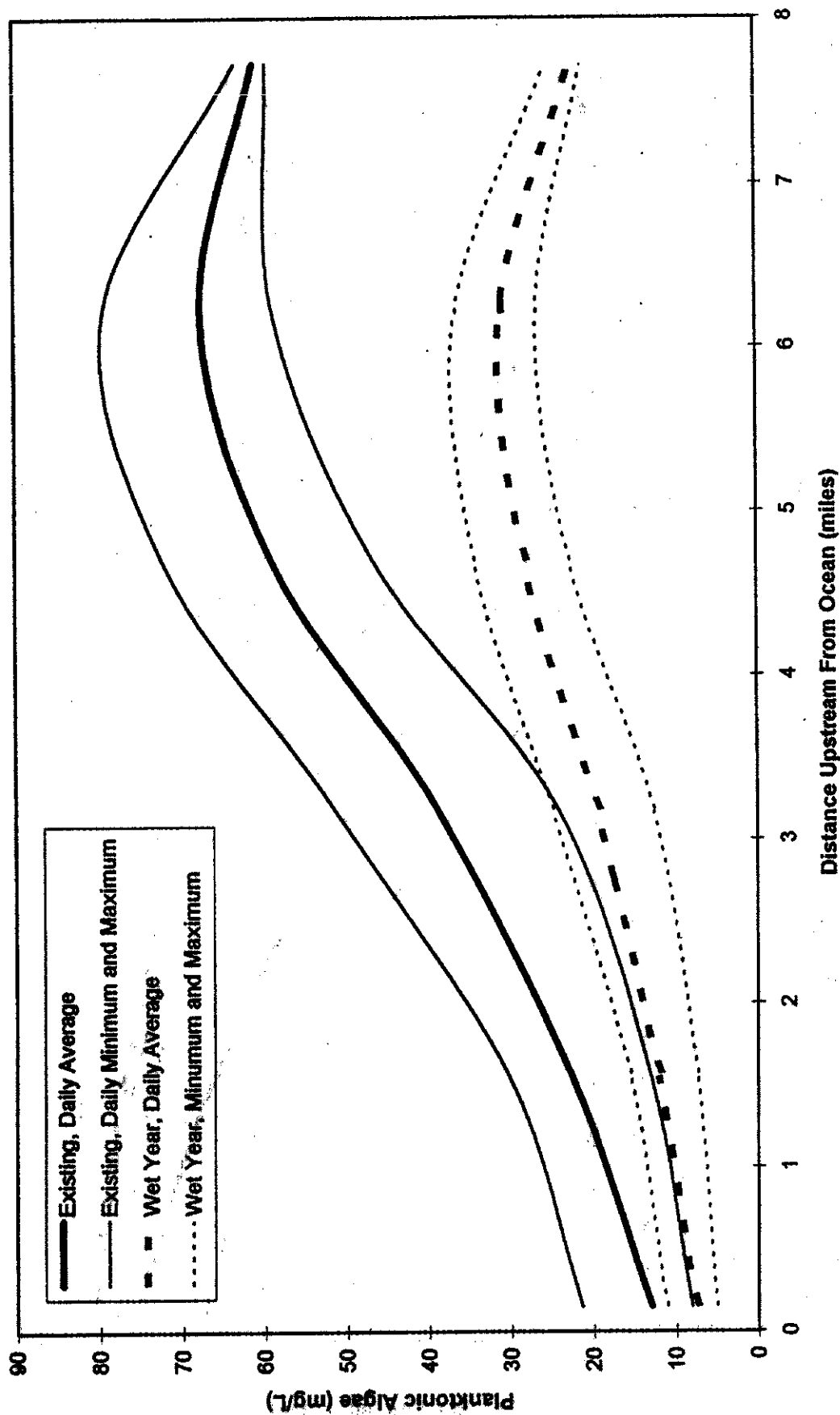
**Figure 6-3.17. Irrigation and Storage Impacts on Planktonic Algae In Estero de San Antonio
Spring Inflow and Bar-Closed Conditions**



**Figure 6-3.18. Irrigation and Storage Impacts on Planktonic Algae In Estero de San Antonio
Spring Inflow and Bar-Closed Conditions**



**Figure 6-3.19. Irrigation and Storage Impacts on Planktonic Algae In Estero de San Antonio
Summer Inflow and Bar-Open Conditions**



**Figure 6-3.20. Irrigation and Storage Impacts on Planktonic Algae In Estero de San Antonio
Summer Inflow and Bar-Open Conditions**

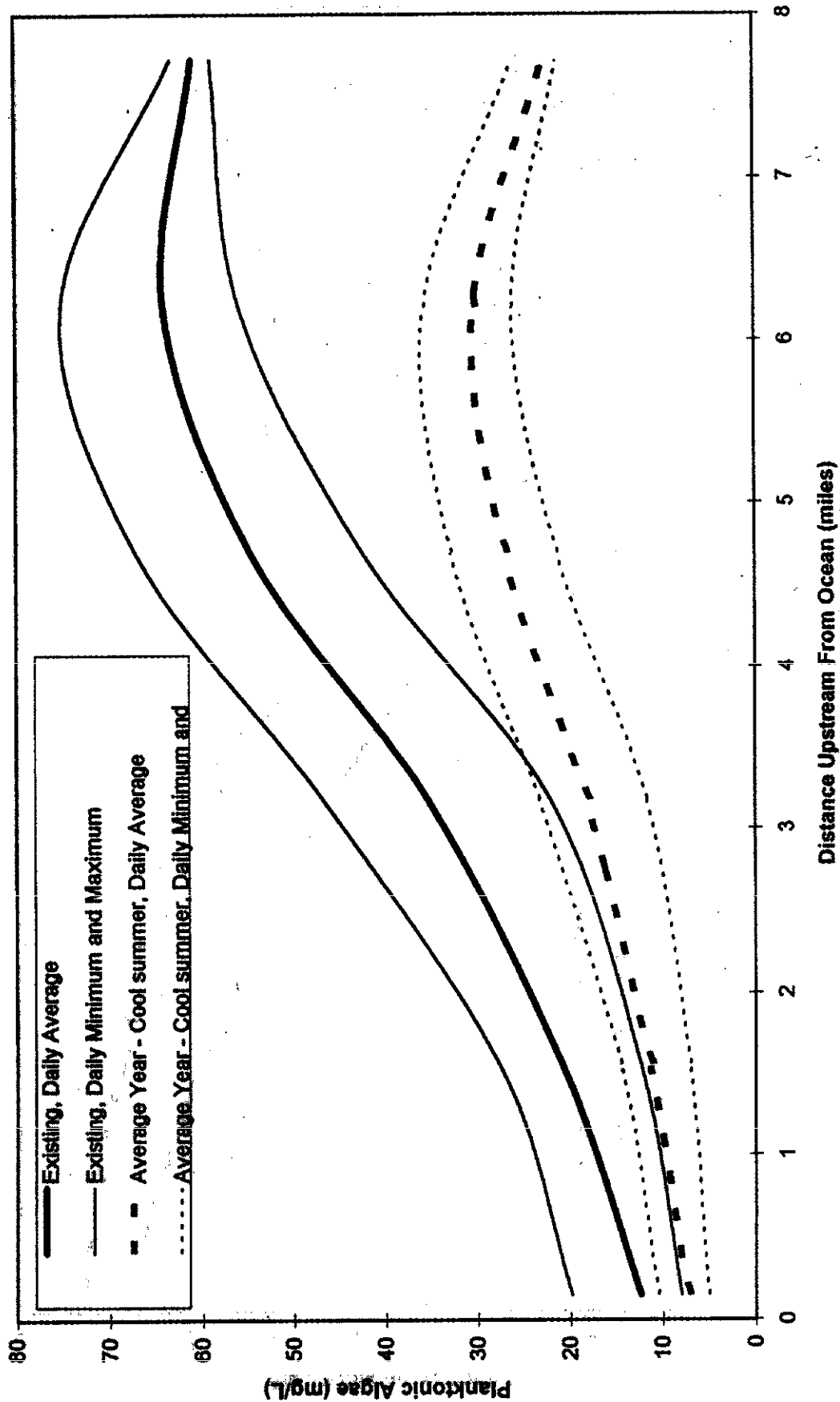
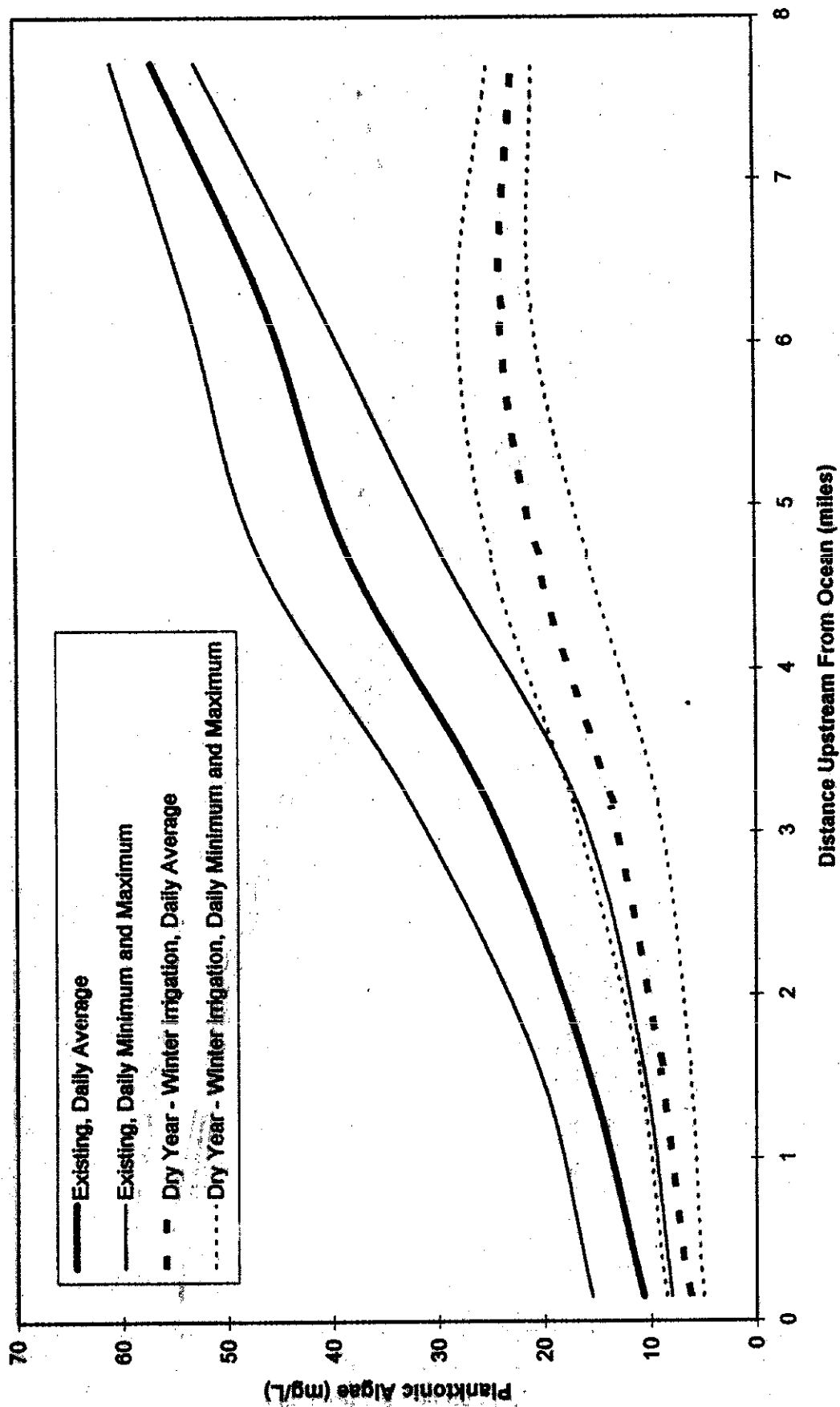
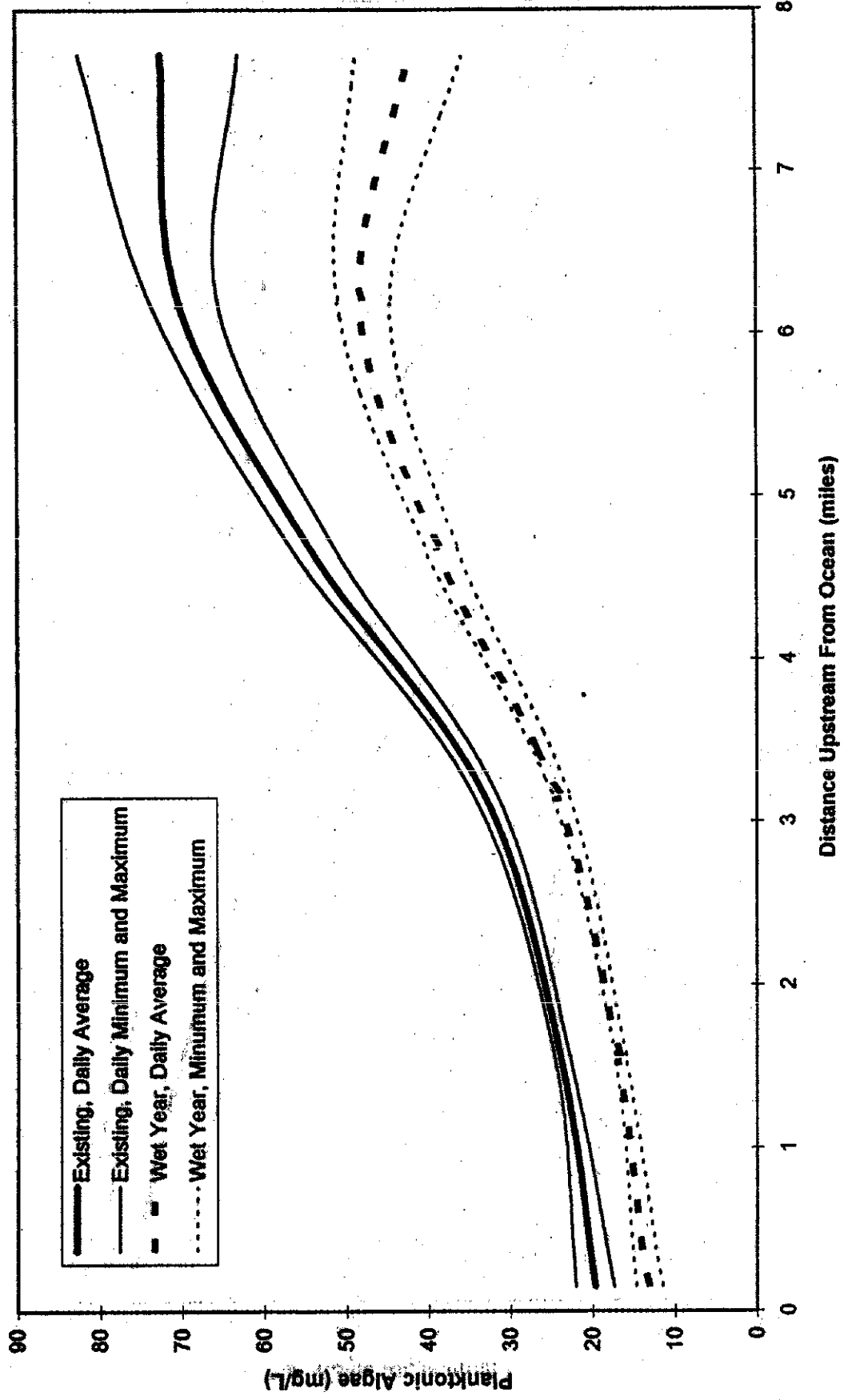


Figure 6-3.21. Irrigation and Storage Impacts on Planktonic Algae In Estero de San Antonio
Summer Inflow and Bar-Open Conditions



**Figure 6-3.22. Irrigation and Storage Impacts on Planktonic Algae in Estero de San Antonio
Summer Inflow and Bar-Closed Conditions**



**Figure 6-3.23. Irrigation and Storage Impacts on Planktonic Algae In Estero de San Antonio
Summer Inflow and Bar-Closed Conditions**

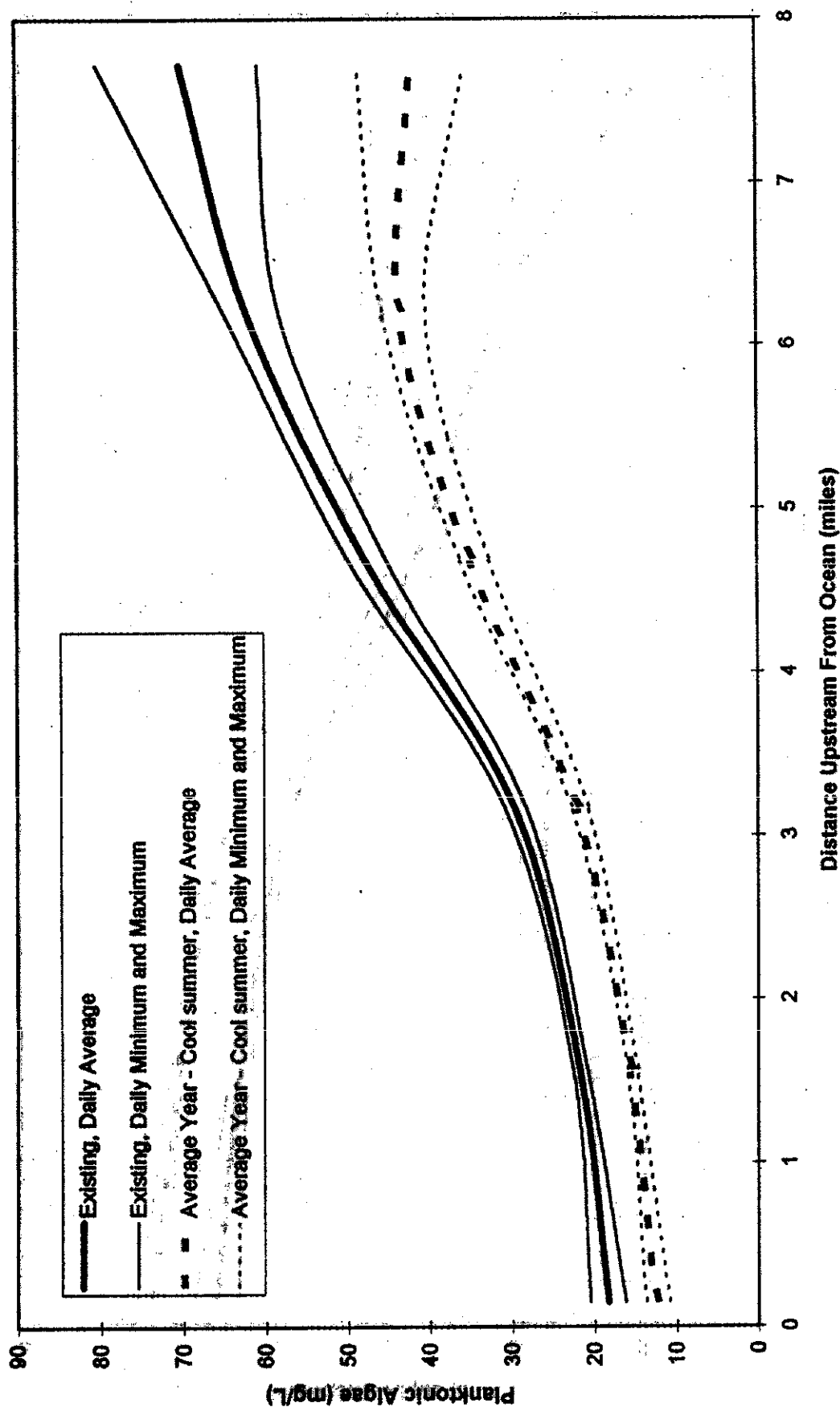
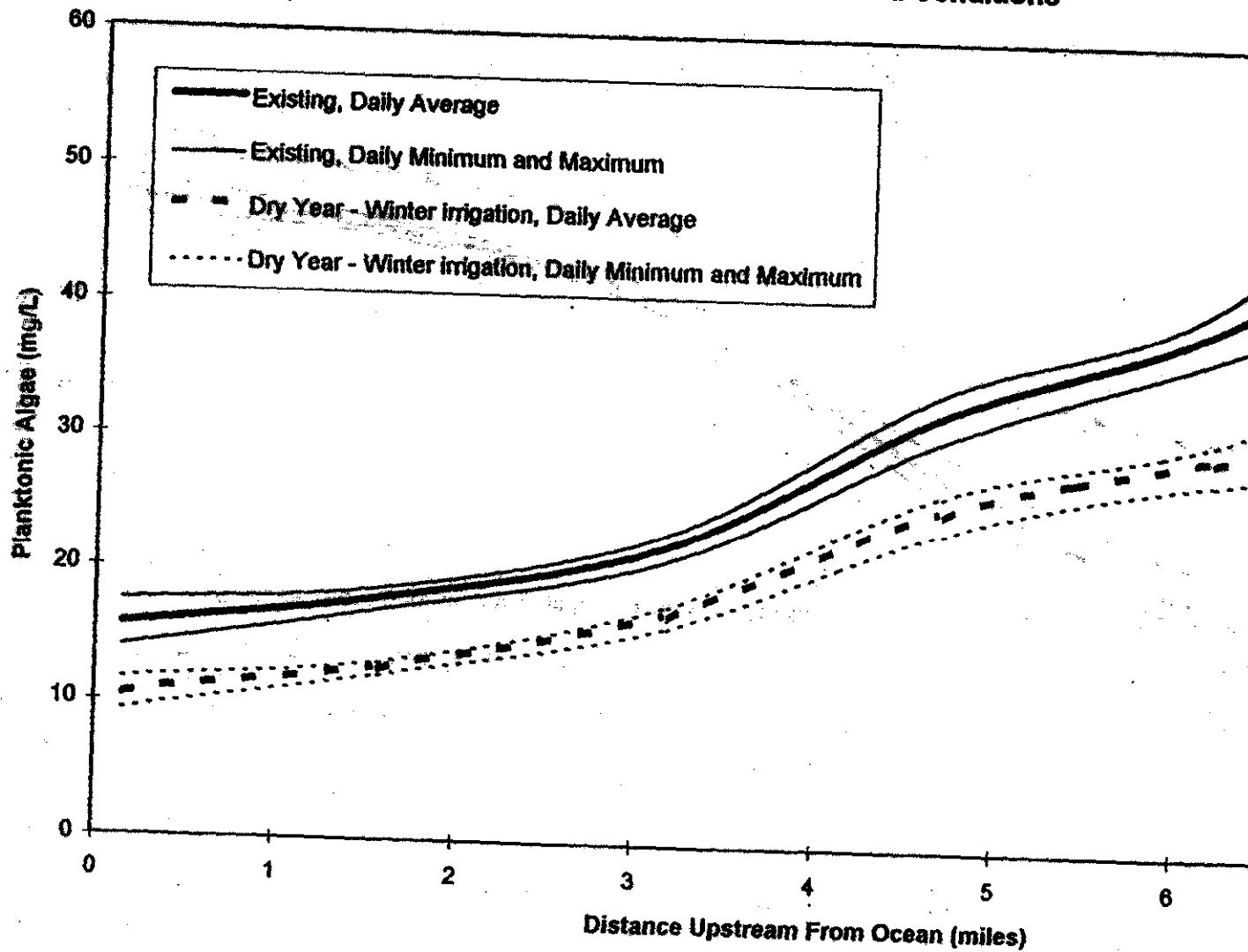
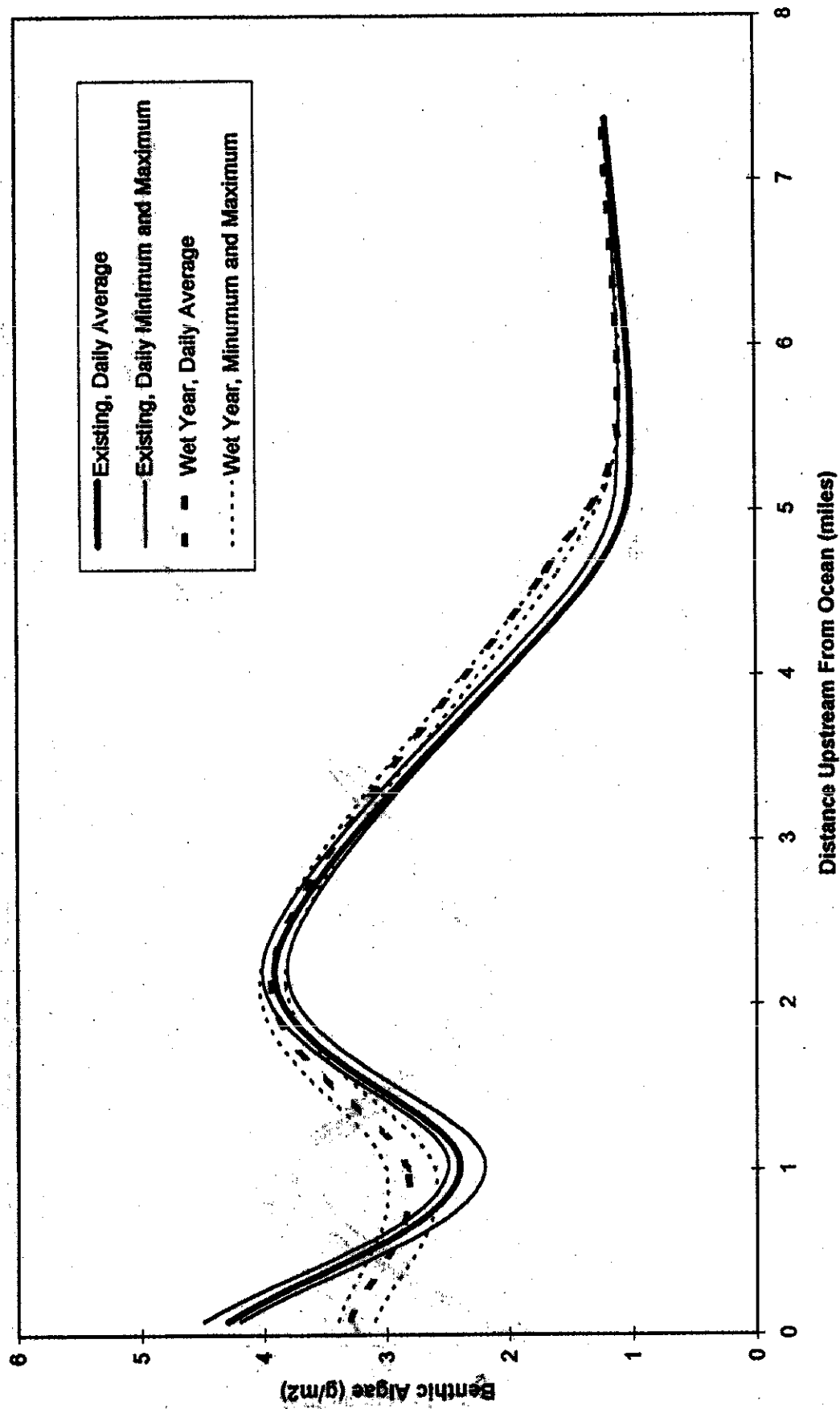


Chart4

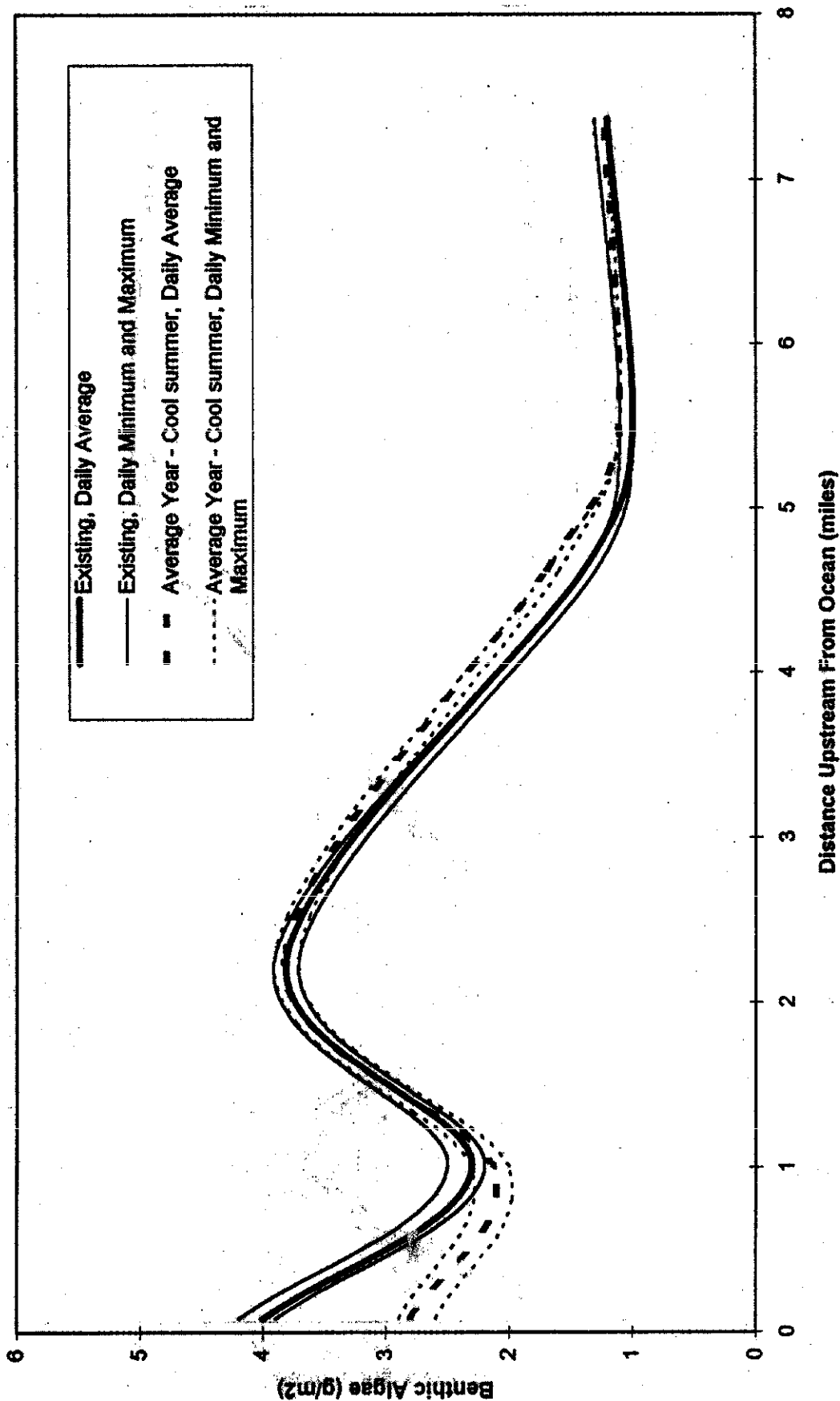
Figure 6-3.24. Irrigation and Storage Impacts on Planktonic Algae In Estero de S.
Summer Inflow and Bar-Closed Conditions



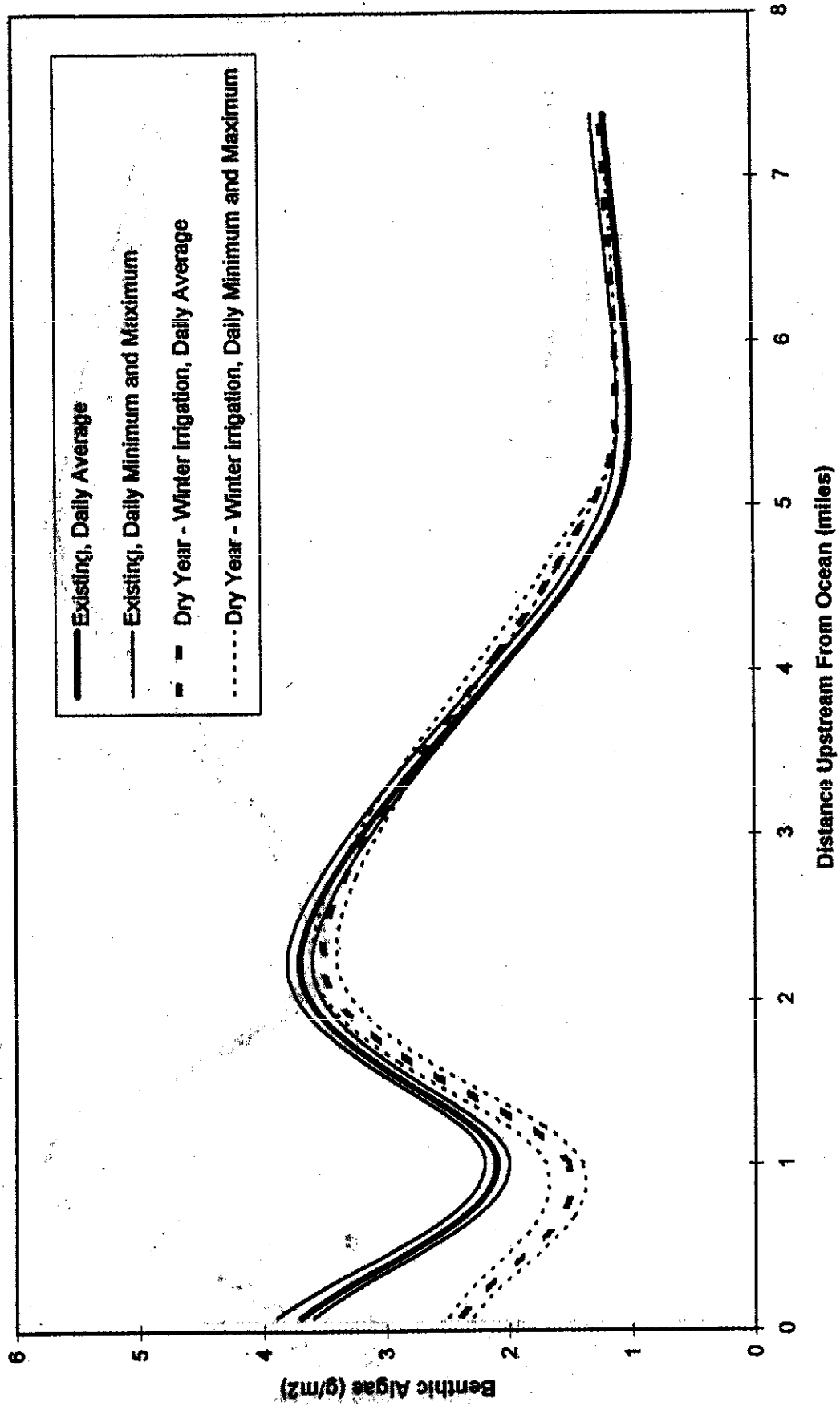
**Figure 6-4.1. Irrigation and Storage Impacts on Benthic Algae in Estero Americano
Spring Inflow and Bar-Open Conditions**



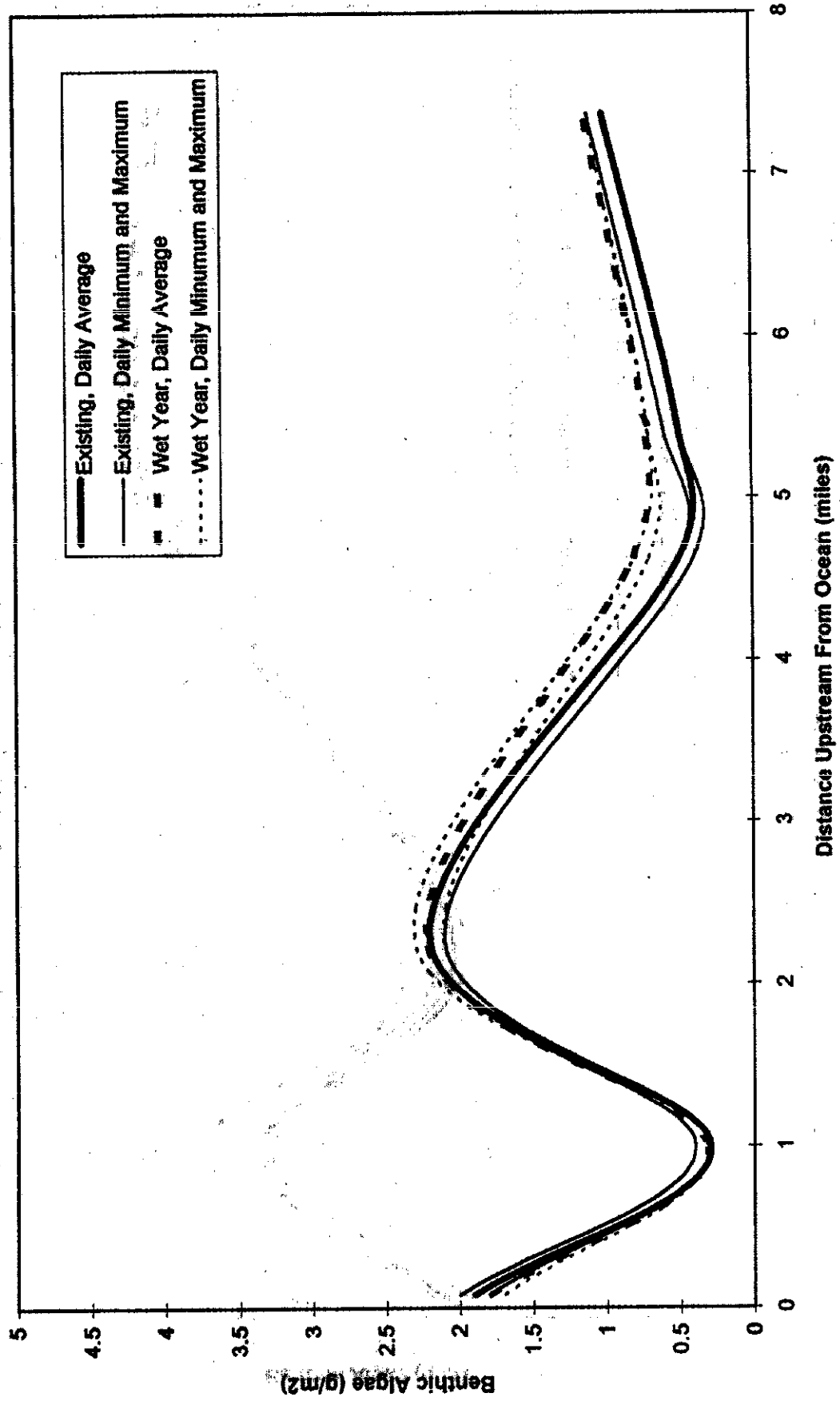
**Figure 6-4.2. Irrigation and Storage Impacts on Benthic Algae in Estero Americano
Spring Inflow and Bar-Open Conditions**



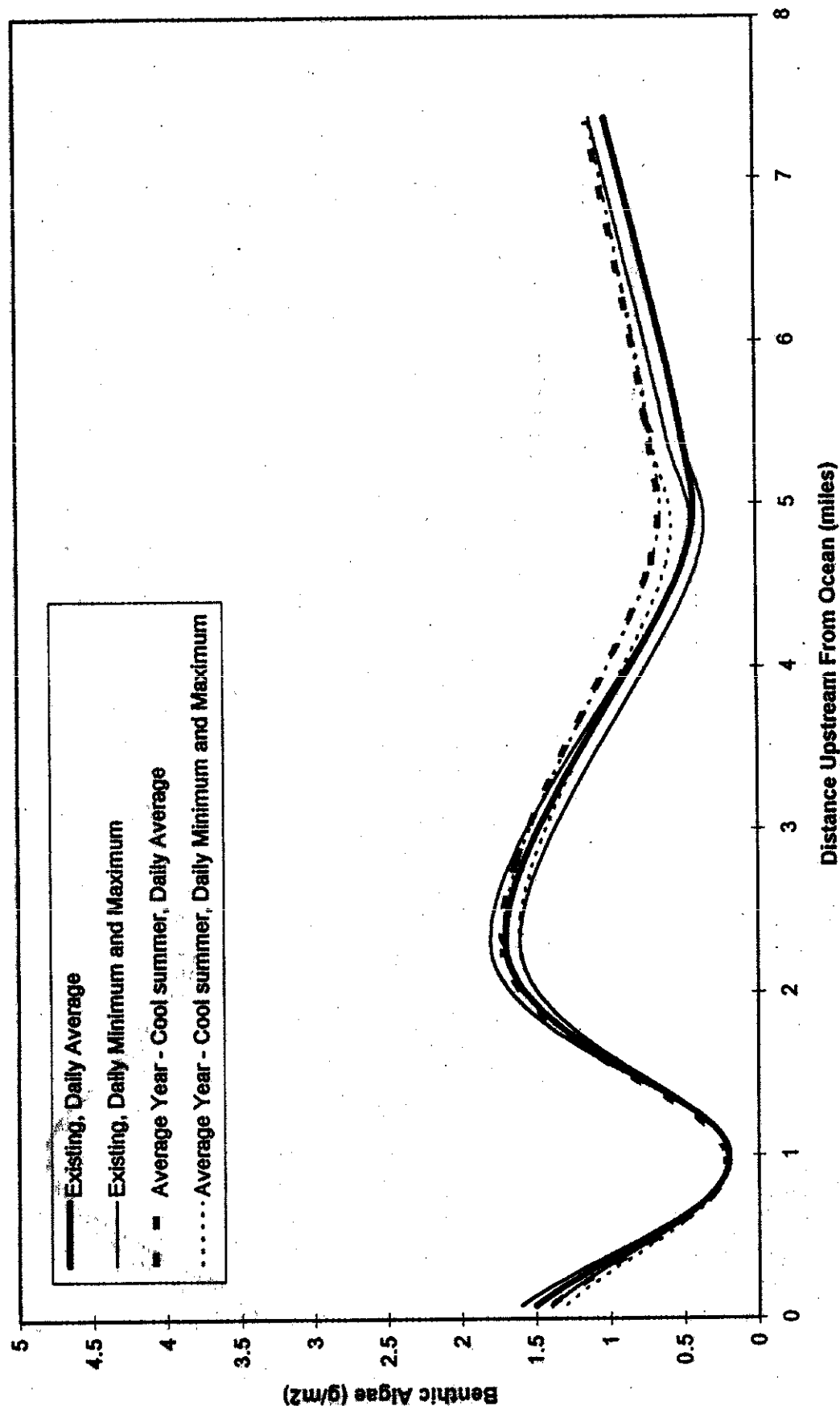
**Figure 6-4.3. Irrigation and Storage Impacts on Benthic Algae In Estero Americano
Spring Inflow and Bar-Open Conditions**



**Figure 6-4.4. Irrigation and Storage Impacts on Benthic Algae in Estero Americano
Spring Inflow and Bar-Closed Conditions**



**Figure 6-4.5. Irrigation and Storage Impacts on Benthic Algae In Estero Americano
Spring Inflow and Bar-Closed Conditions**



**Figure 6-4.6. Irrigation and Storage Impacts on Benthic Algae In Estero Americano
Spring Inflow and Bar-Closed Conditions**

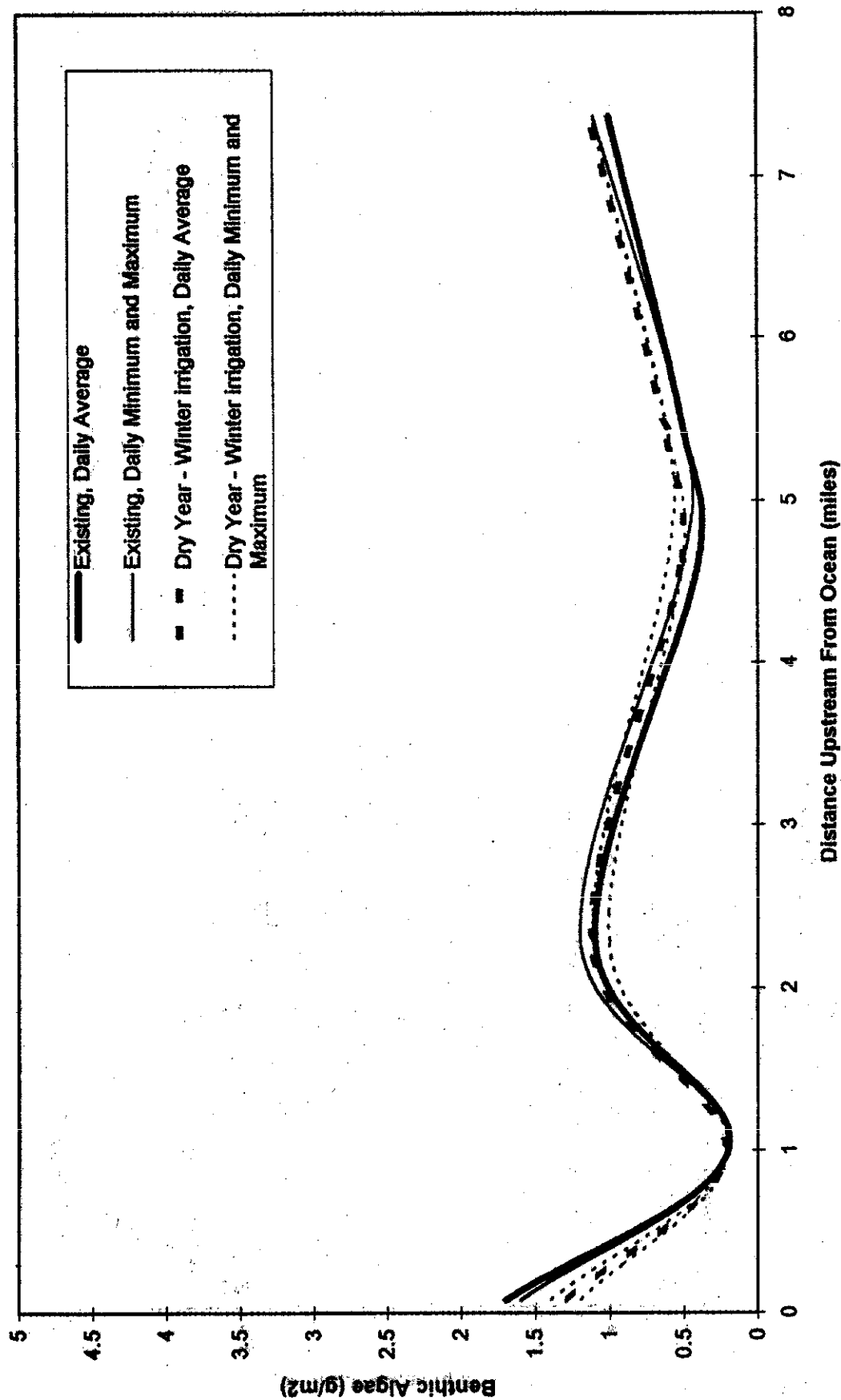


Chart6

**Figure 6-4.7. Irrigation and Storage Impacts on Benthic Algae in Estero America
Spring Inflow and Bar-Open Conditions**

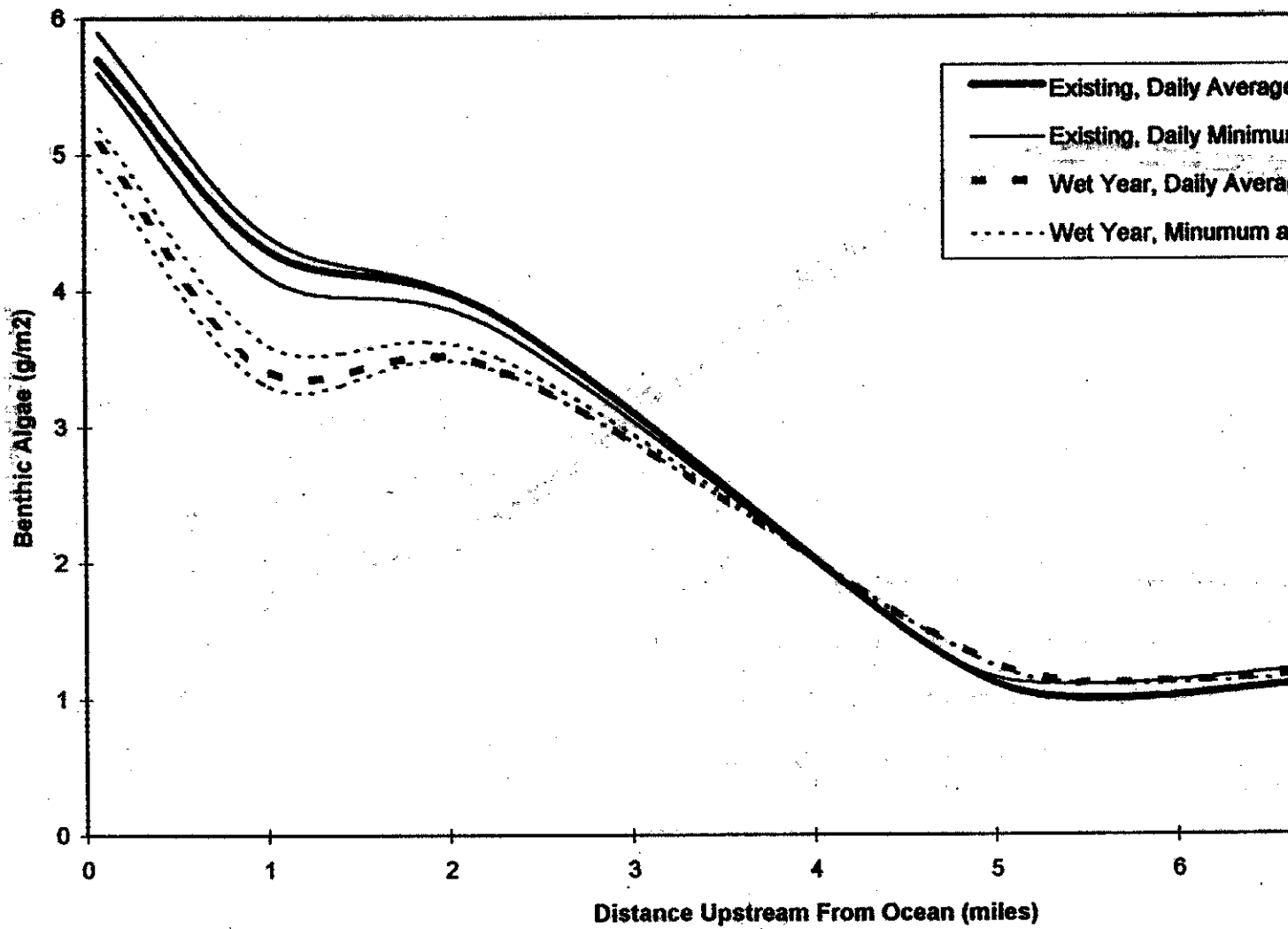


Figure 6-4.8. Irrigation and Storage Impacts on Benthic Algae in Estero Americano
Summer Inflow and Bar-Open Conditions

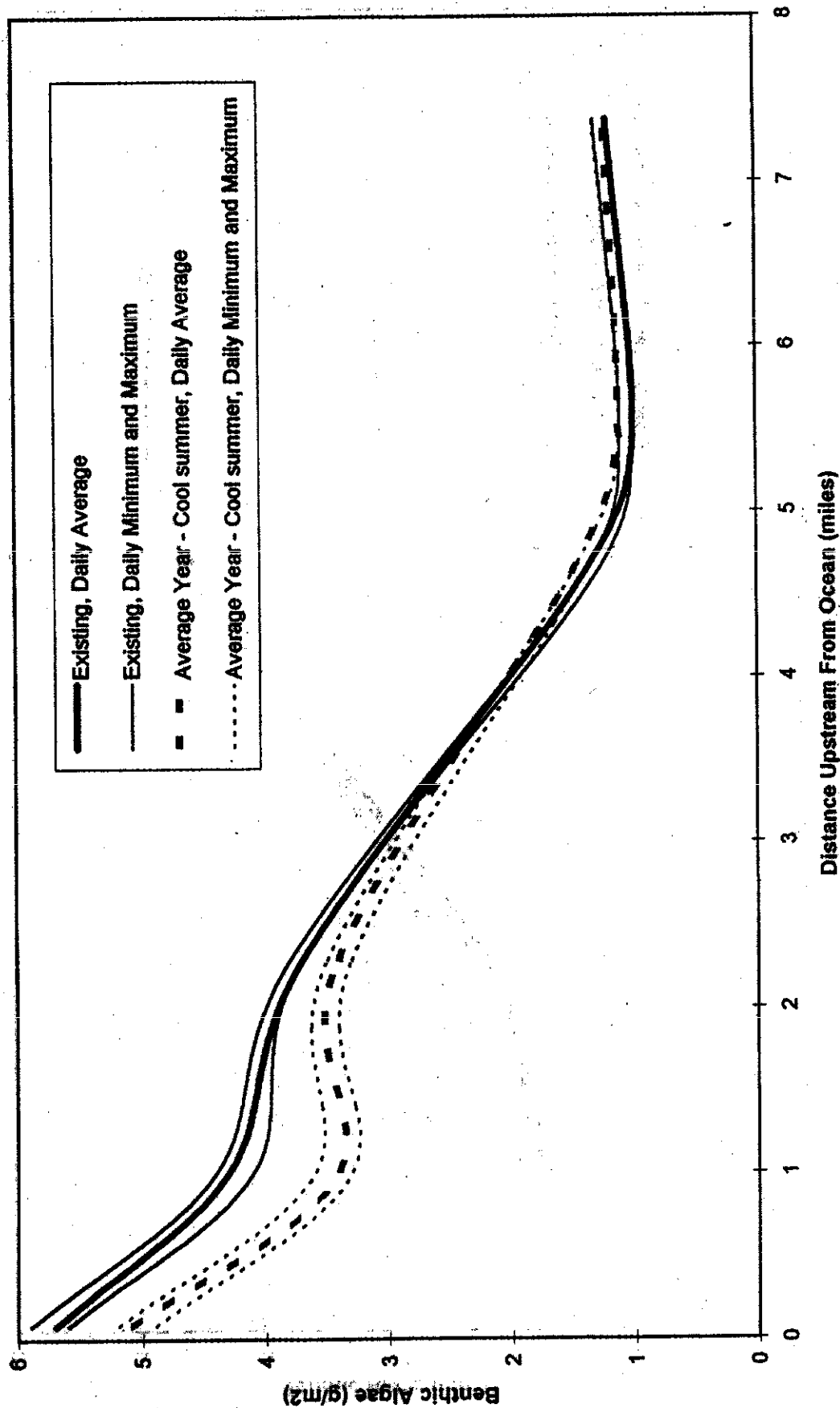
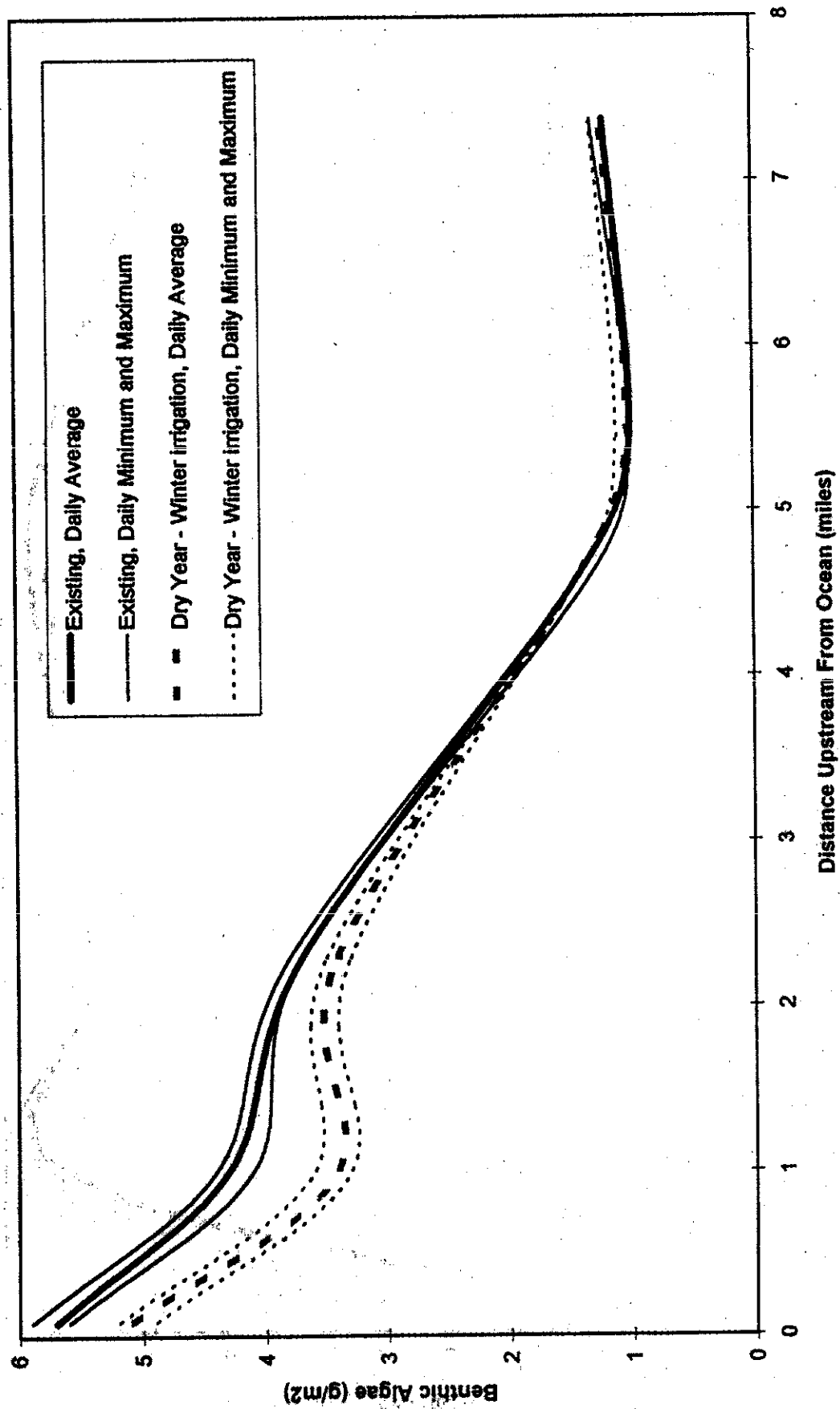
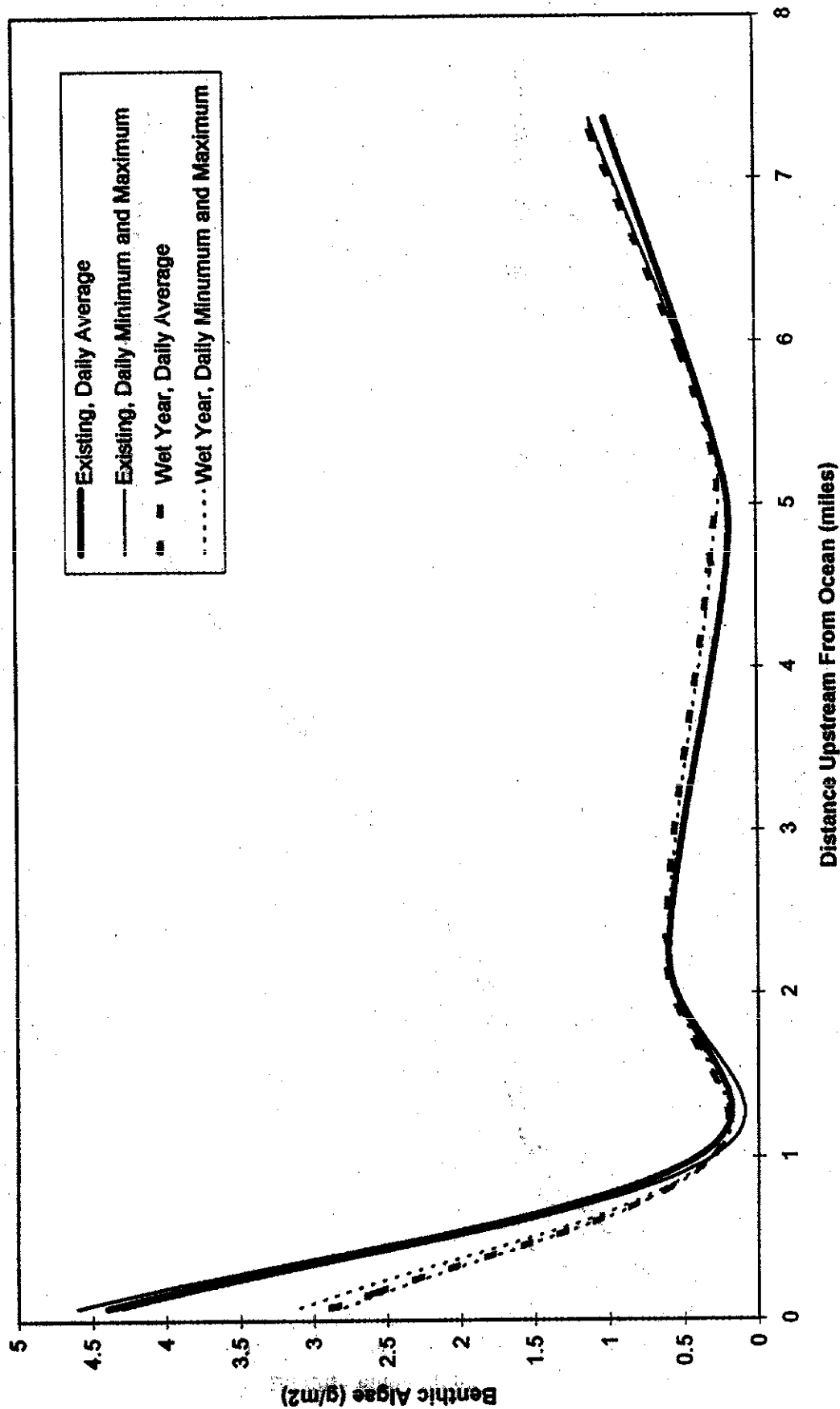


Figure 6-4.9. Irrigation and Storage Impacts on Benthic Algae in Estero Americano
Summer Inflow and Bar-Open Conditions



**Figure 6-4.10. Irrigation and Storage Impacts on Benthic Algae in Estero Americano
Summer Inflow and Bar-Closed Conditions**



**Figure 6-4.11. Irrigation and Storage Impacts on Benthic Algae in Estero Americano
Summer Inflow and Bar-Closed Conditions**

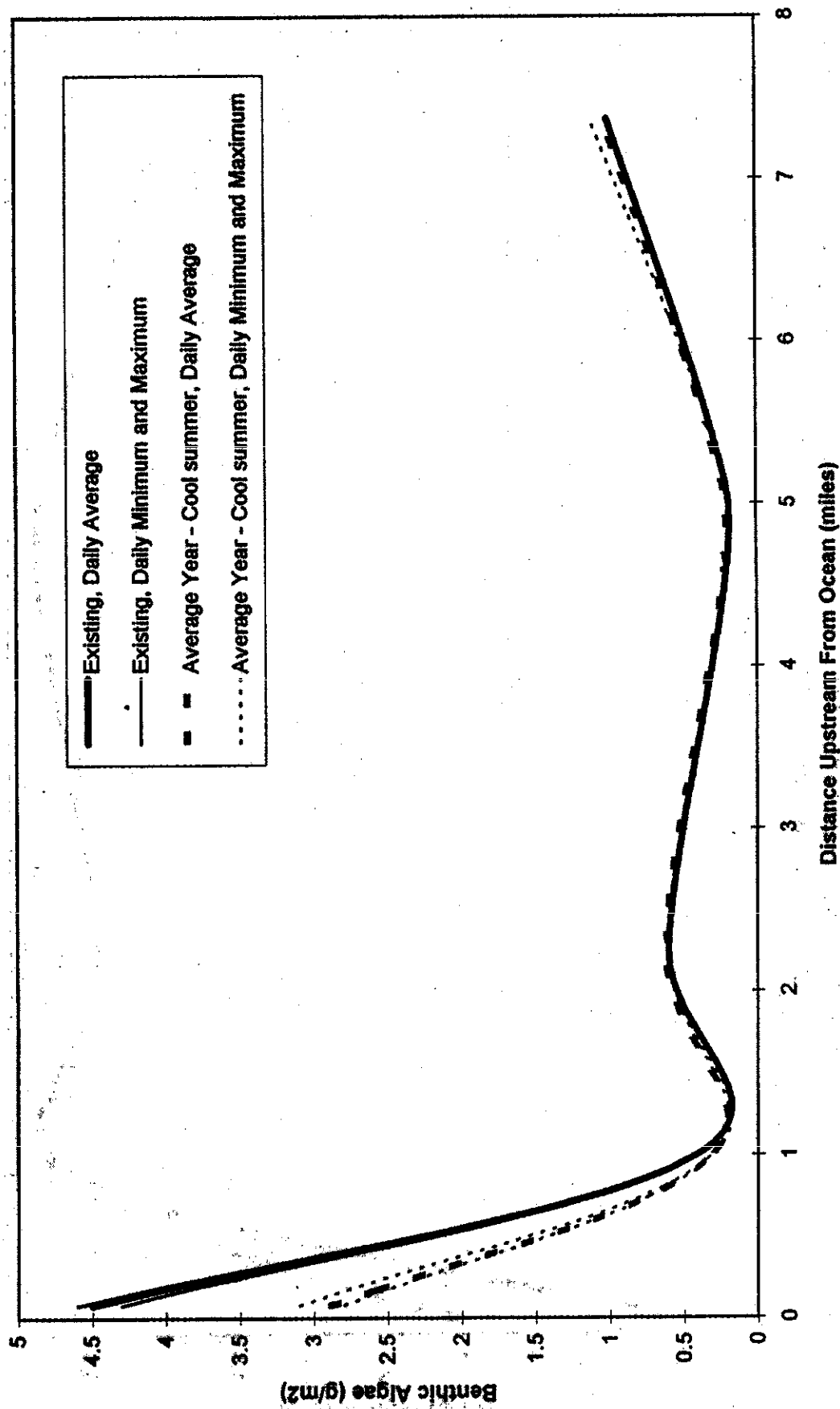


Figure 6-4.12. Irrigation and Storage Impacts on Benthic Algae in Estero Americano
Summer Inflow and Bar-Closed Conditions

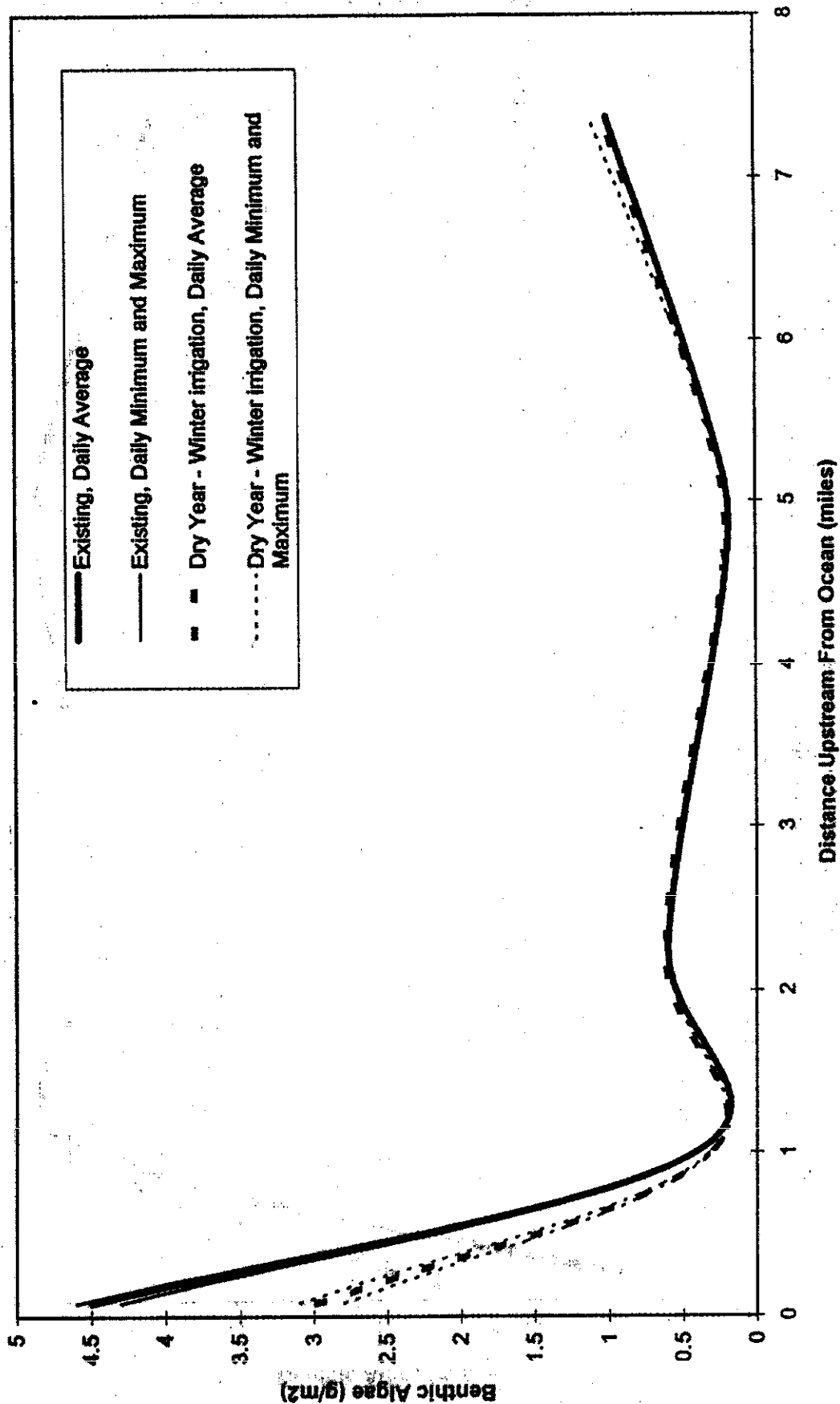


Chart5

Figure 6-4.13. Irrigation and Storage Impacts on Benthic Algae In Estero de San A
Spring Inflow and Bar-Open Conditions

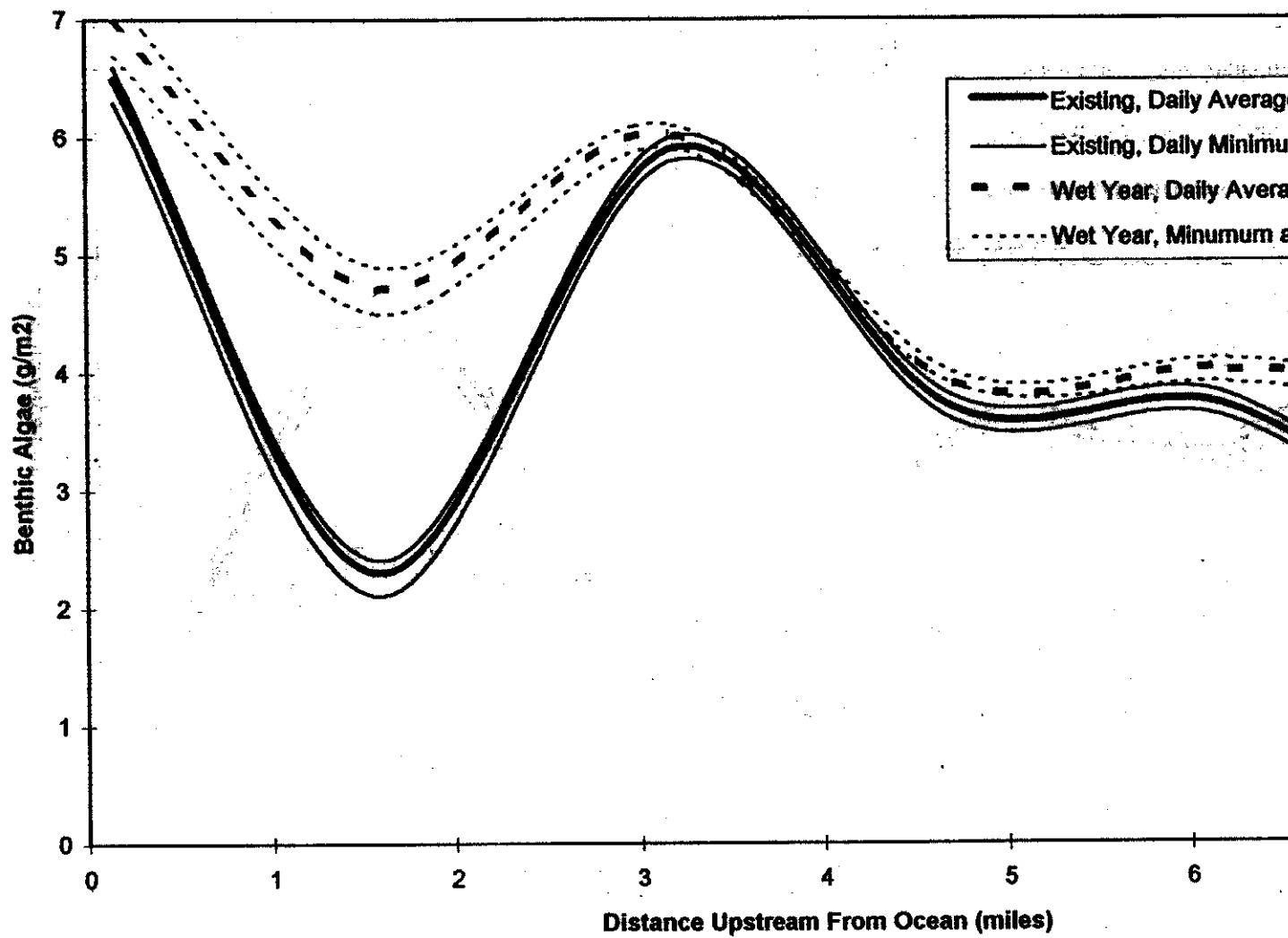
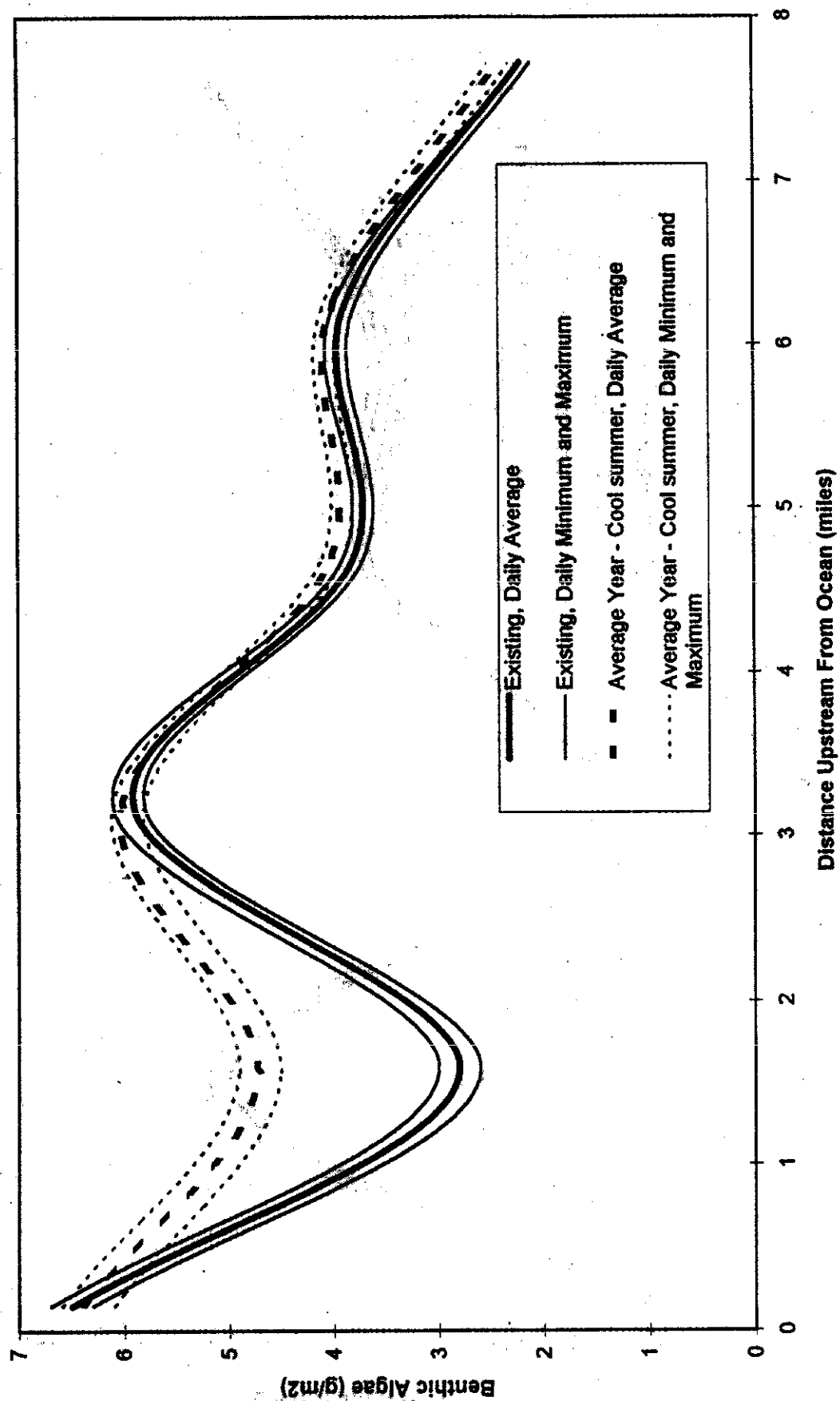
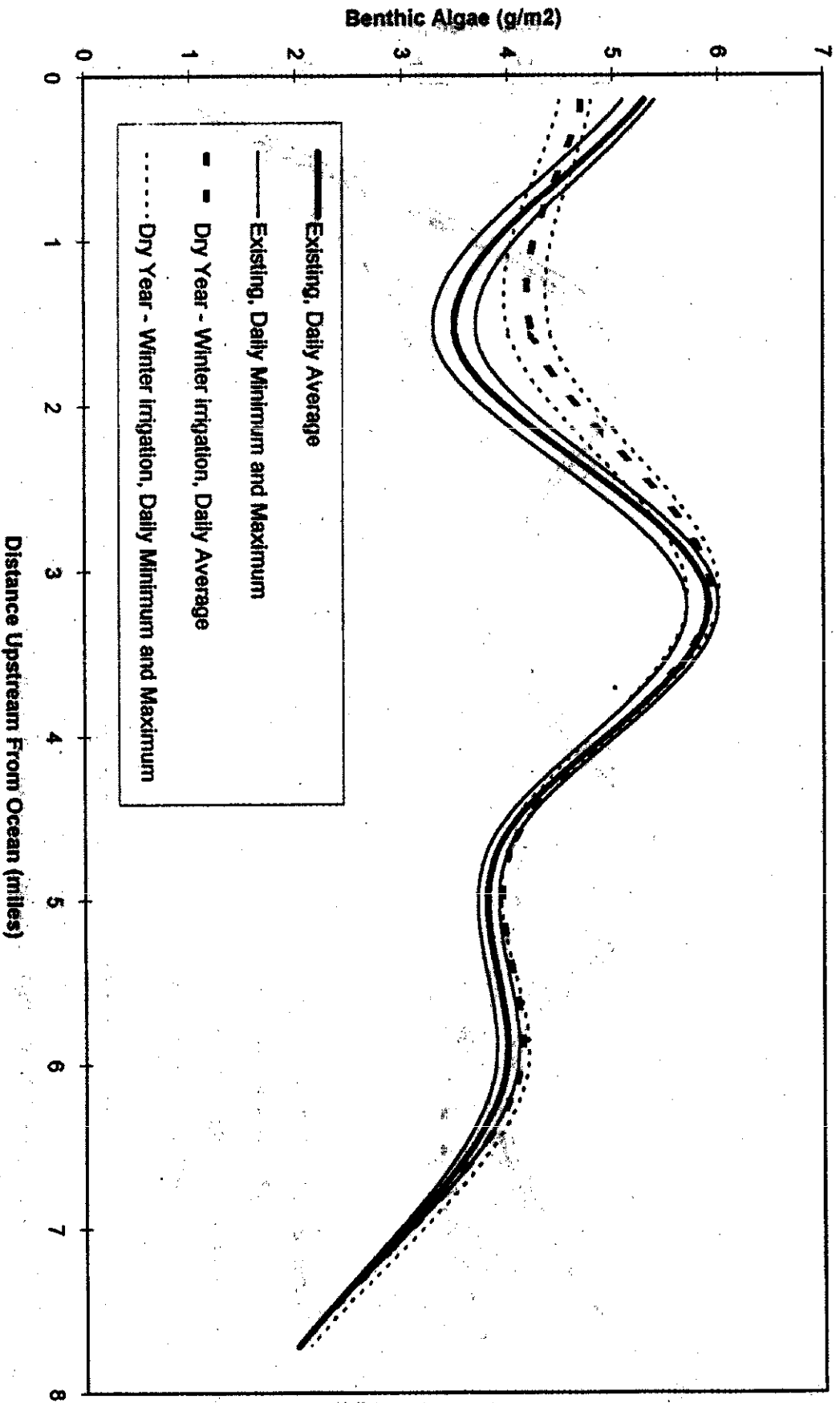


Chart1

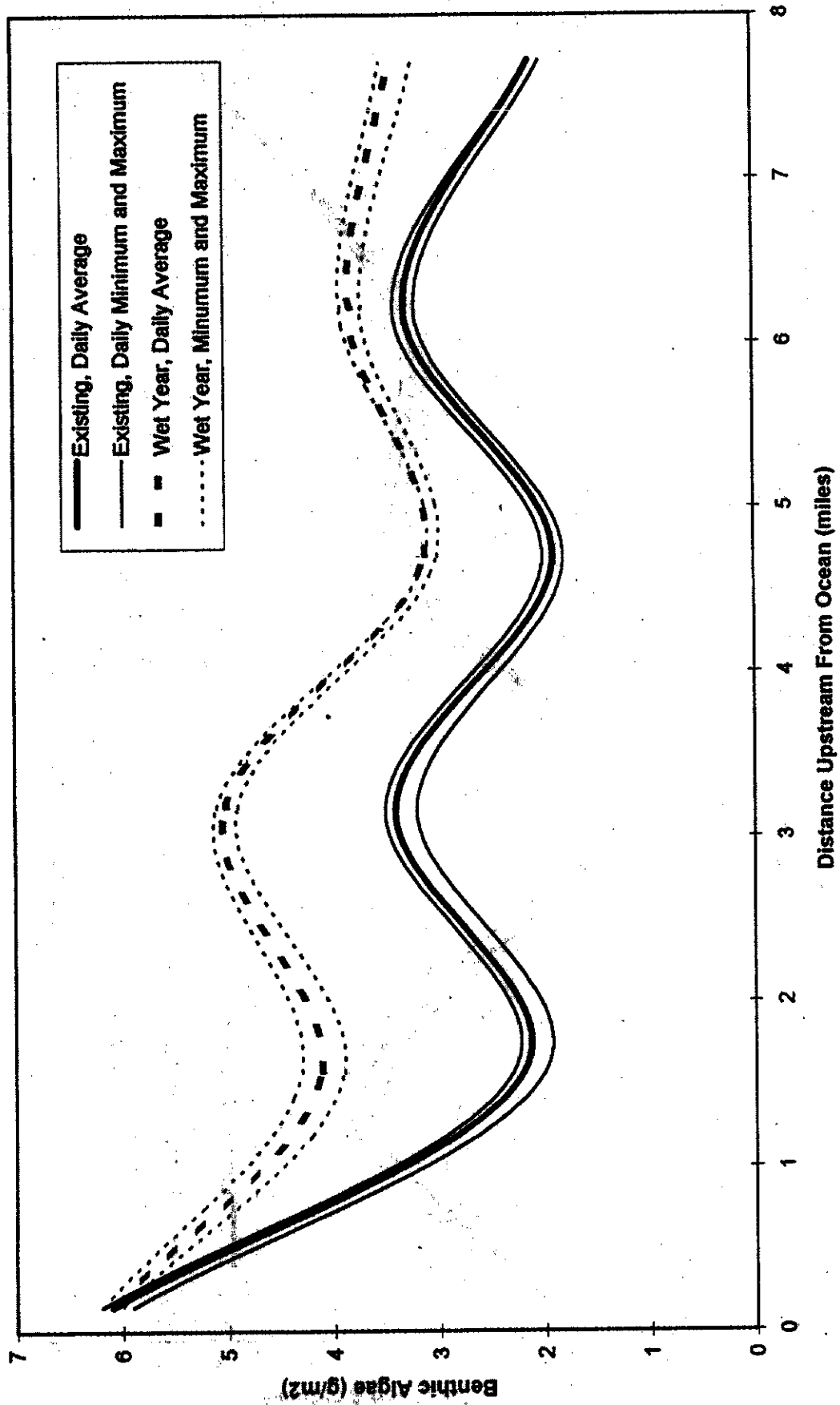
**Figure 6-4.14. Irrigation and Storage Impacts on Benthic Algae in Estero de San Antonio
Spring Inflow and Bar-Open Conditions**



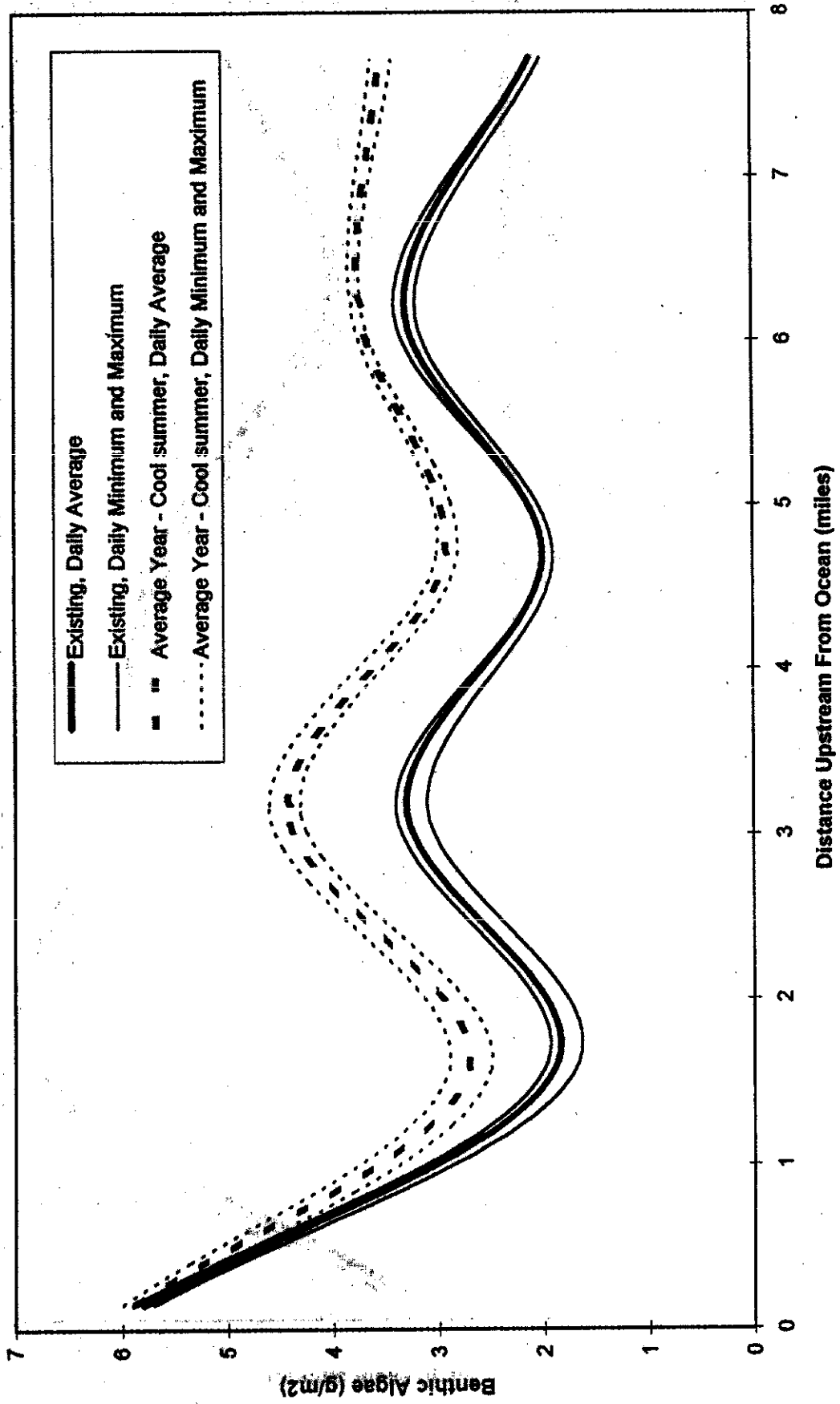
**Figure 6-4.15. Irrigation and Storage Impacts on Benthic Algae In Estero de San Antonio
Spring Inflow and Bar-Open Conditions**



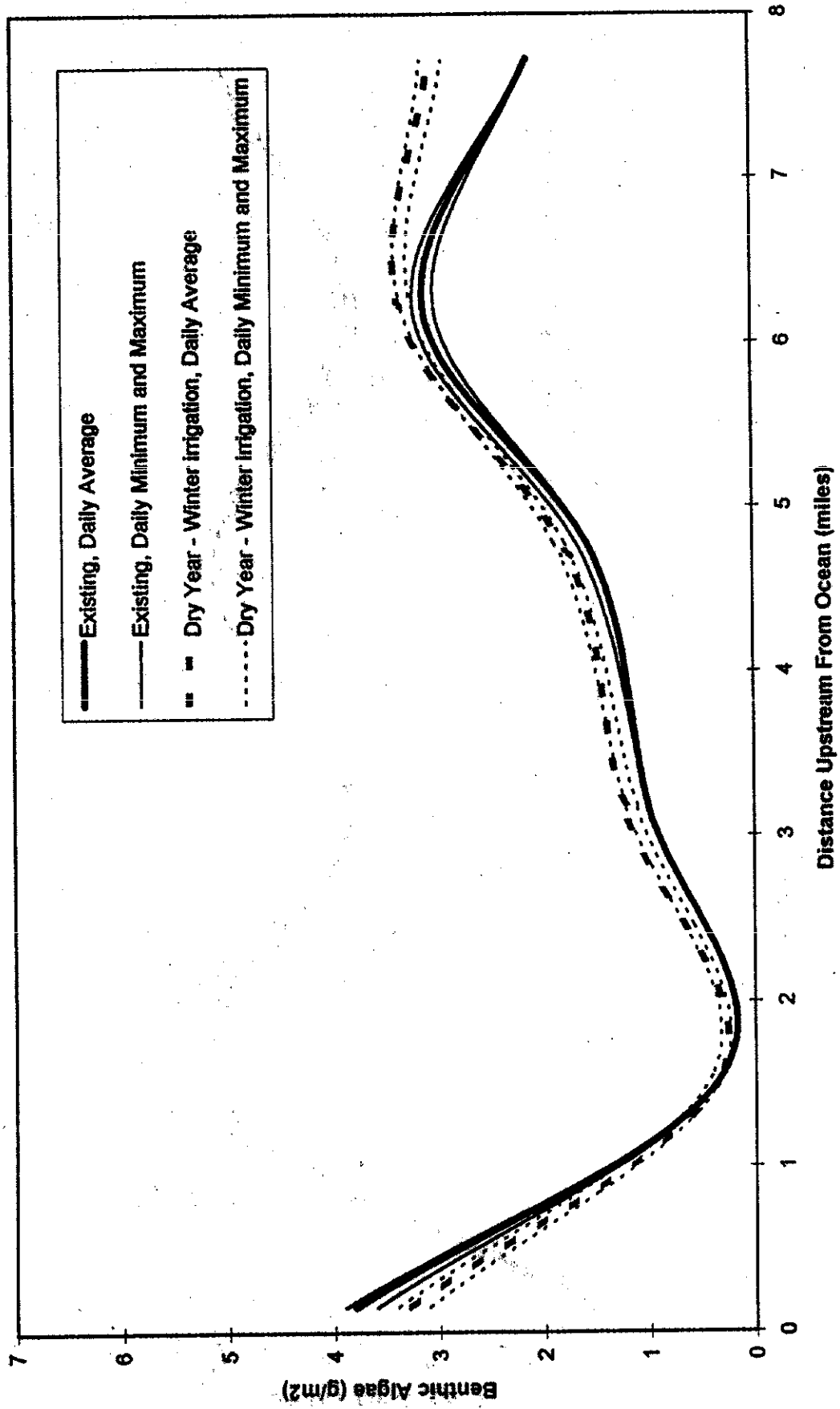
**Figure 6-4.16. Irrigation and Storage Impacts on Benthic Algae in Estero de San Antonio
Spring Inflow and Bar-Closed Conditions**



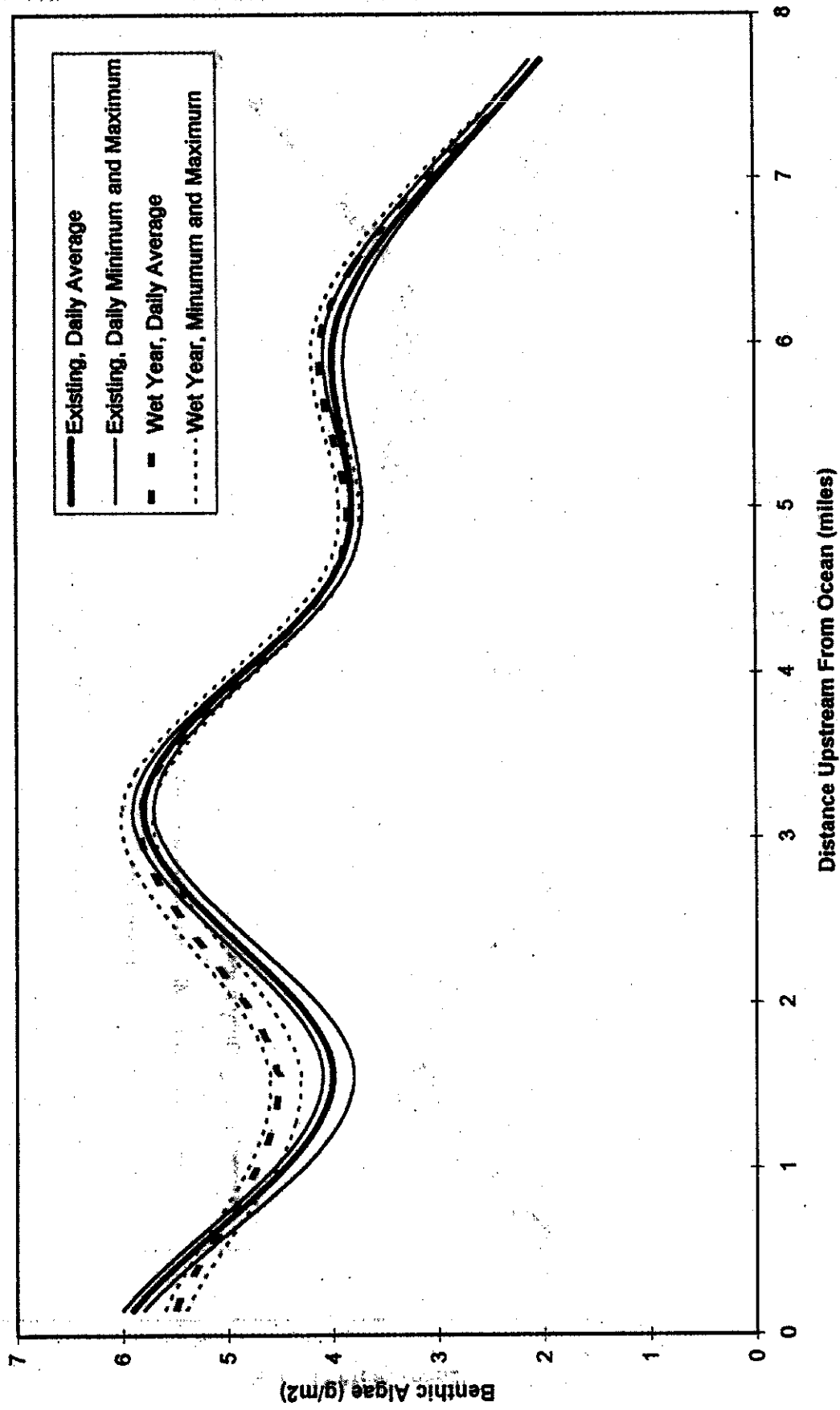
**Figure 6-4.17. Irrigation and Storage Impacts on Benthic Algae in Estero de San Antonio
Spring Inflow and Bar-Closed Conditions**



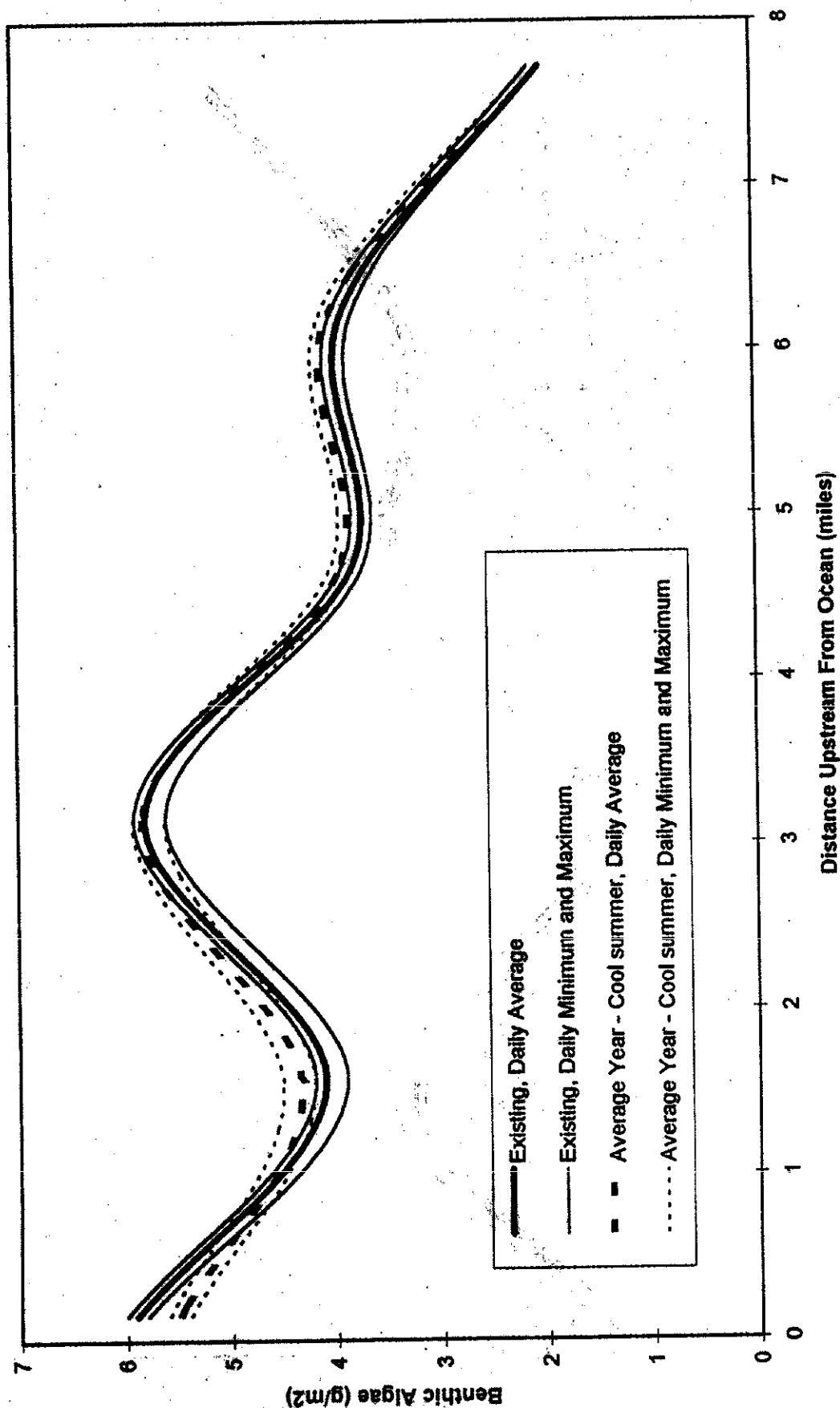
**Figure 6-4.18. Irrigation and Storage Impacts on Benthic Algae in Estero de San Antonio
Spring Inflow and Bar-Closed Conditions**



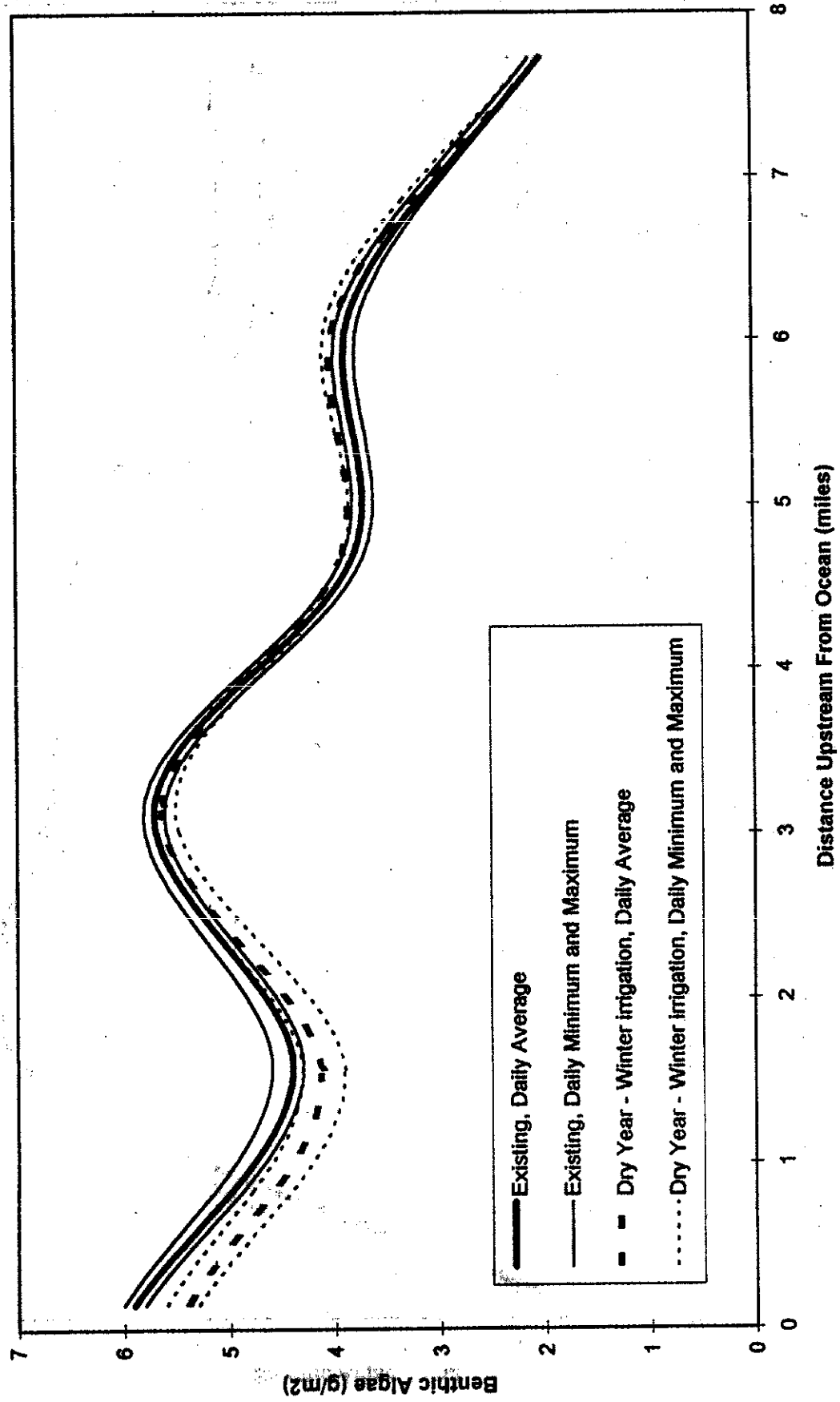
**Figure 6-4.19. Irrigation and Storage Impacts on Benthic Algae in Estero de San Antonio
Summer Inflow and Bar-Open Conditions**



**Figure 6-4.20. Irrigation and Storage Impacts on Benthic Algae In Estero de San Antonio
Summer Inflow and Bar-Open Conditions**



**Figure 6-4.21. Irrigation and Storage Impacts on Benthic Algae in Estero de San Antonio
Summer Inflow and Bar-Open Conditions**



**Figure 6-4.22. Irrigation and Storage Impacts on Benthic Algae in Estero de San Antonio
Summer Inflow and Bar-Closed Conditions**

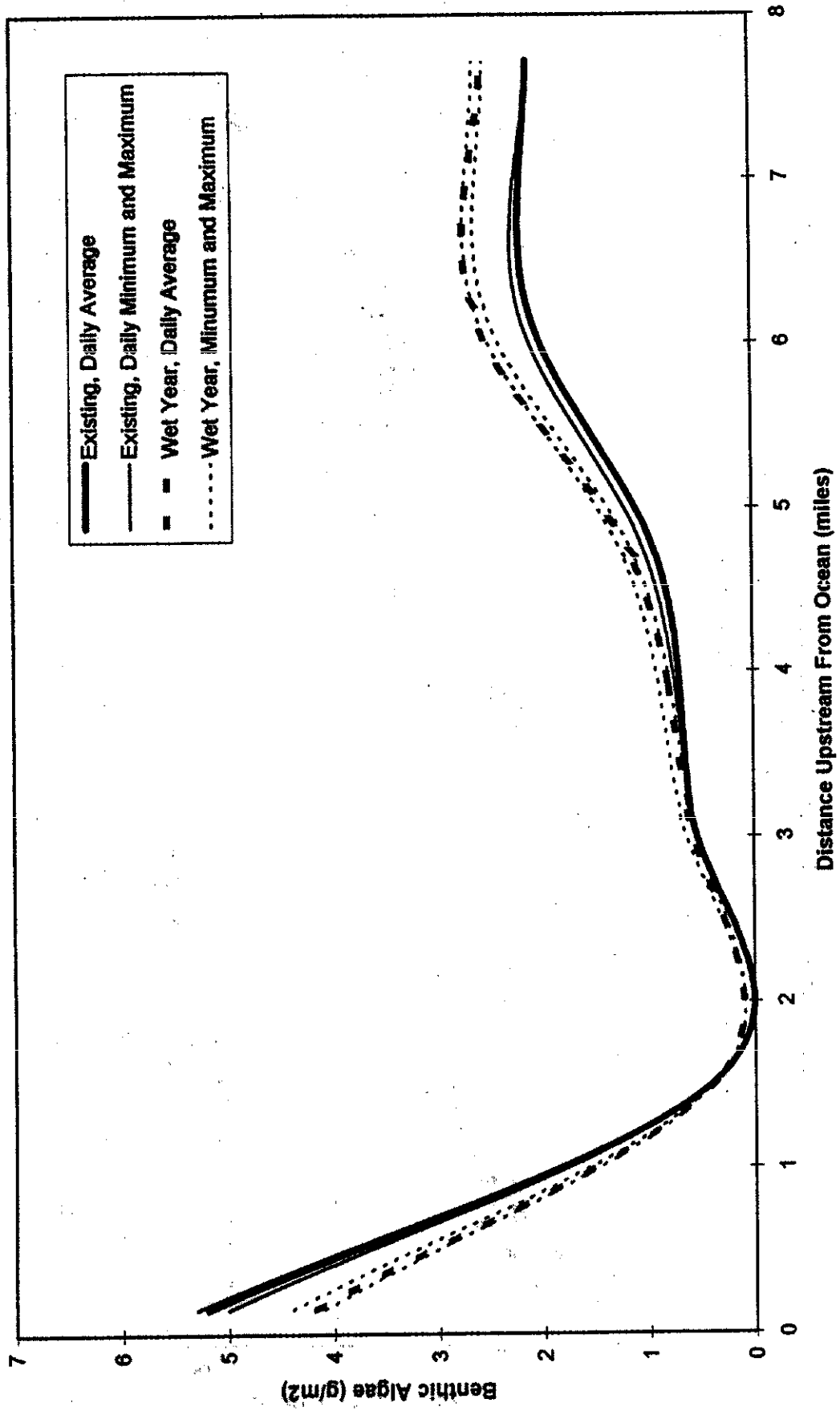


Chart2

**Figure 6-4.23. Irrigation and Storage Impacts on Benthic Algae in Estero de San A
Summer Inflow and Bar-Closed Conditions**

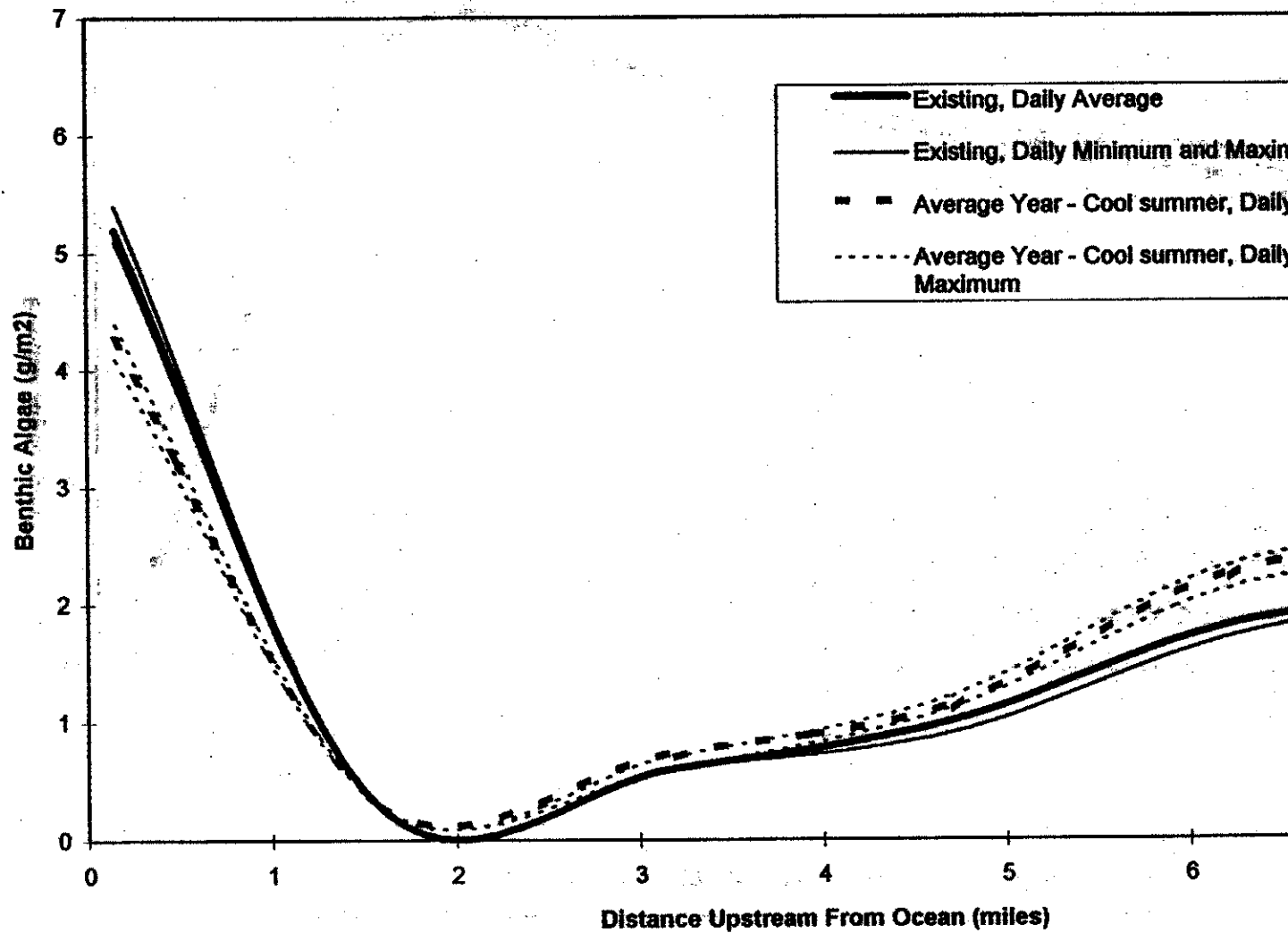


Chart4

**Figure 6-4.24. Irrigation and Storage Impacts on Benthic Algae In Estero de San A
Summer Inflow and Bar-Closed Conditions**

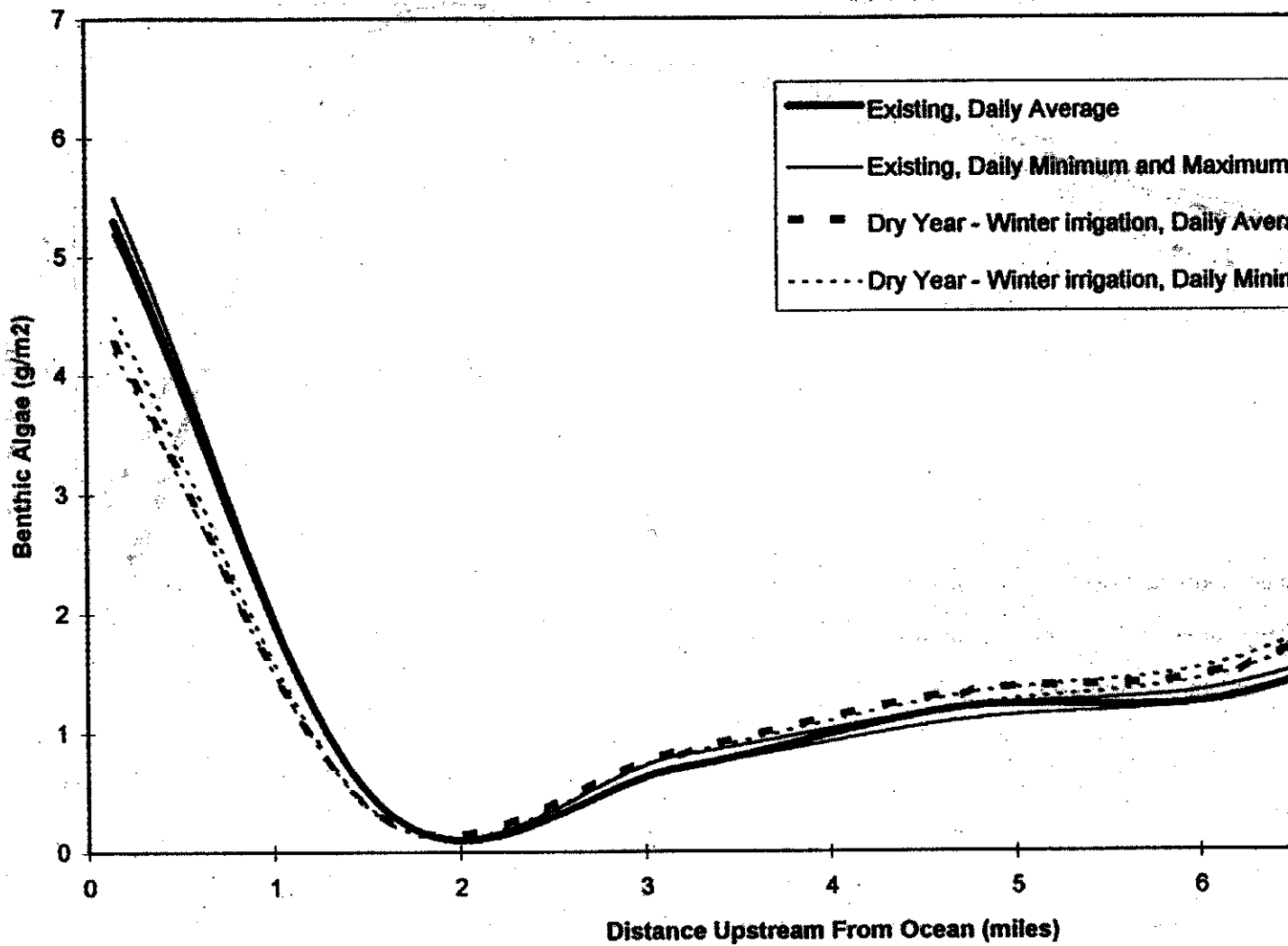


Chart5

Figure 6-5.1. Irrigation and Storage Impacts on Dissolved Oxygen In Estero Amer
Spring Inflow and Bar-Open Conditions

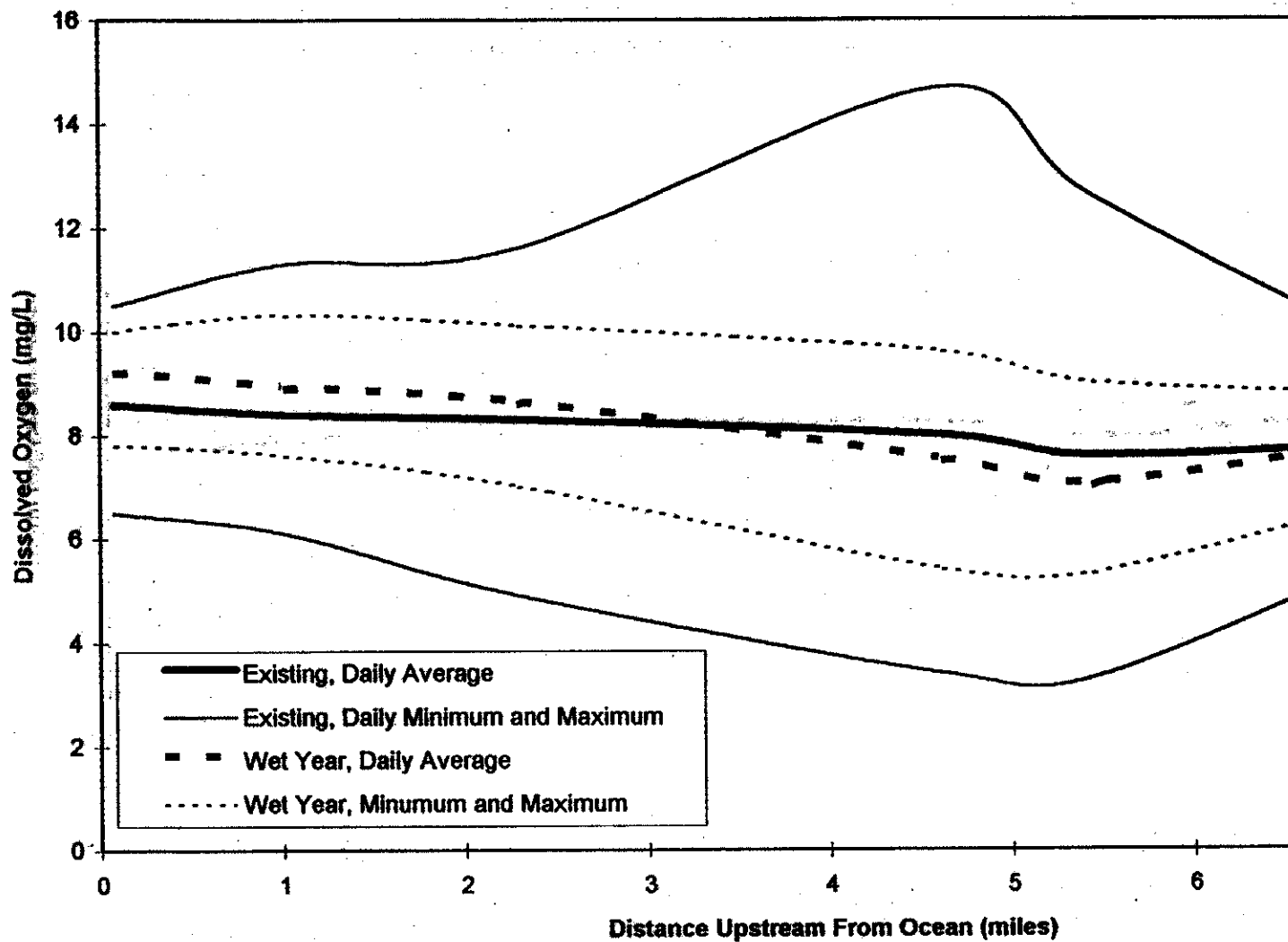
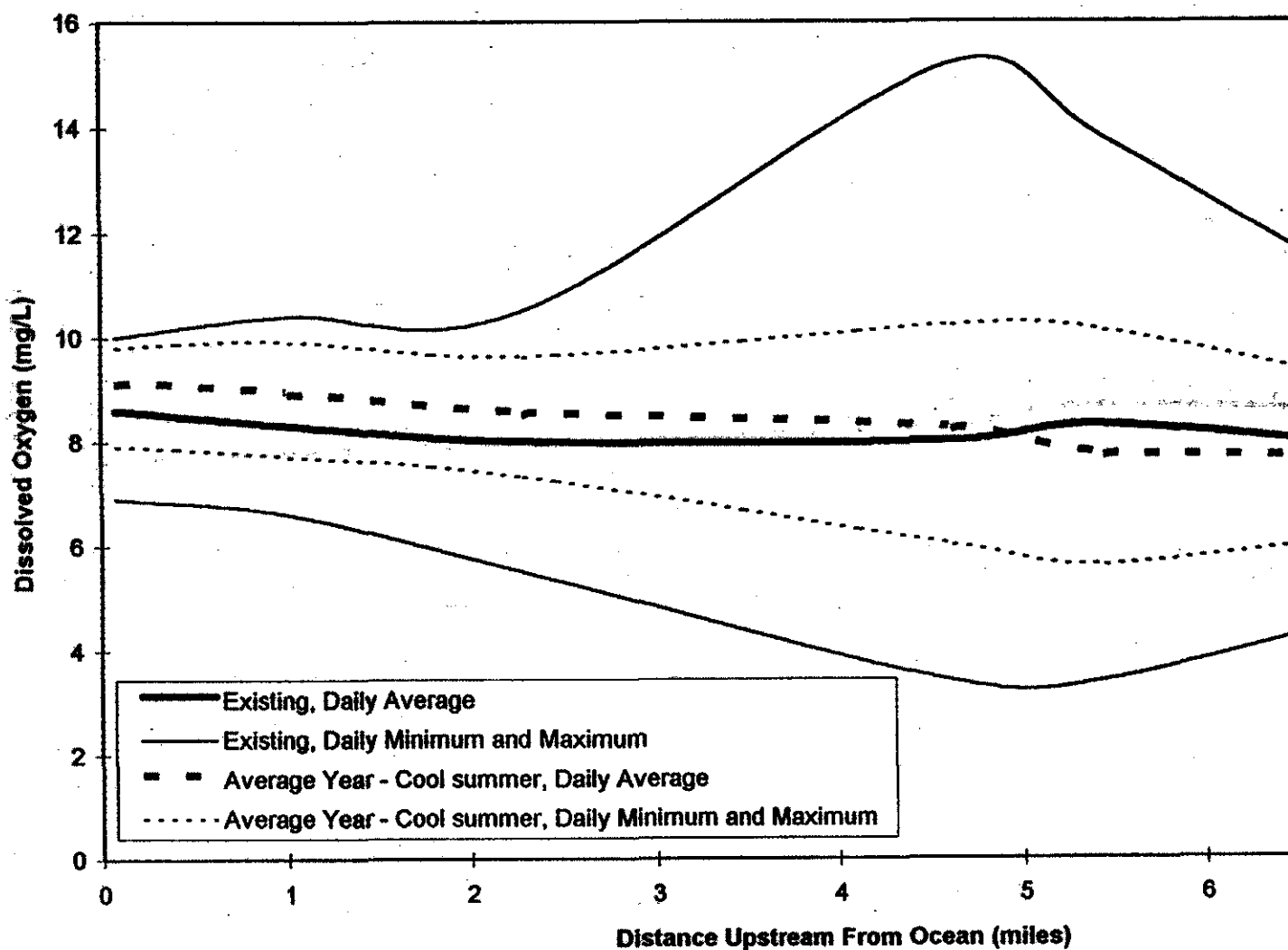
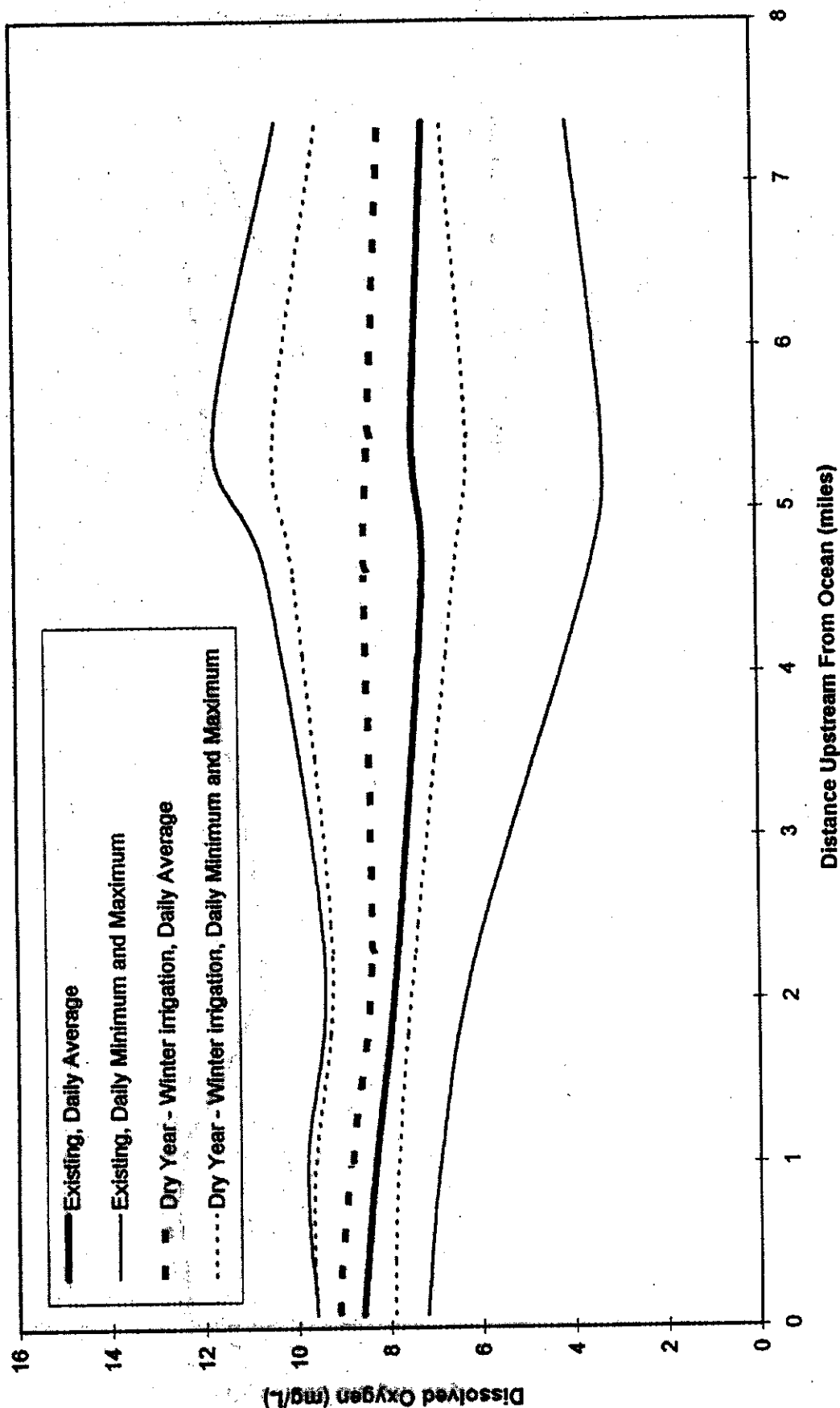


Chart1

**Figure 6-5.2. Irrigation and Storage Impacts on Dissolved Oxygen in Estero Amero
Spring Inflow and Bar-Open Conditions**



**Figure 6-5.3. Irrigation and Storage Impacts on Dissolved Oxygen in Estero Americano
Spring Inflow and Bar-Open Conditions**



**Figure 6-5.4. Irrigation and Storage Impacts on Dissolved Oxygen In Estero Americano
Spring Inflow and Bar-Closed Conditions**

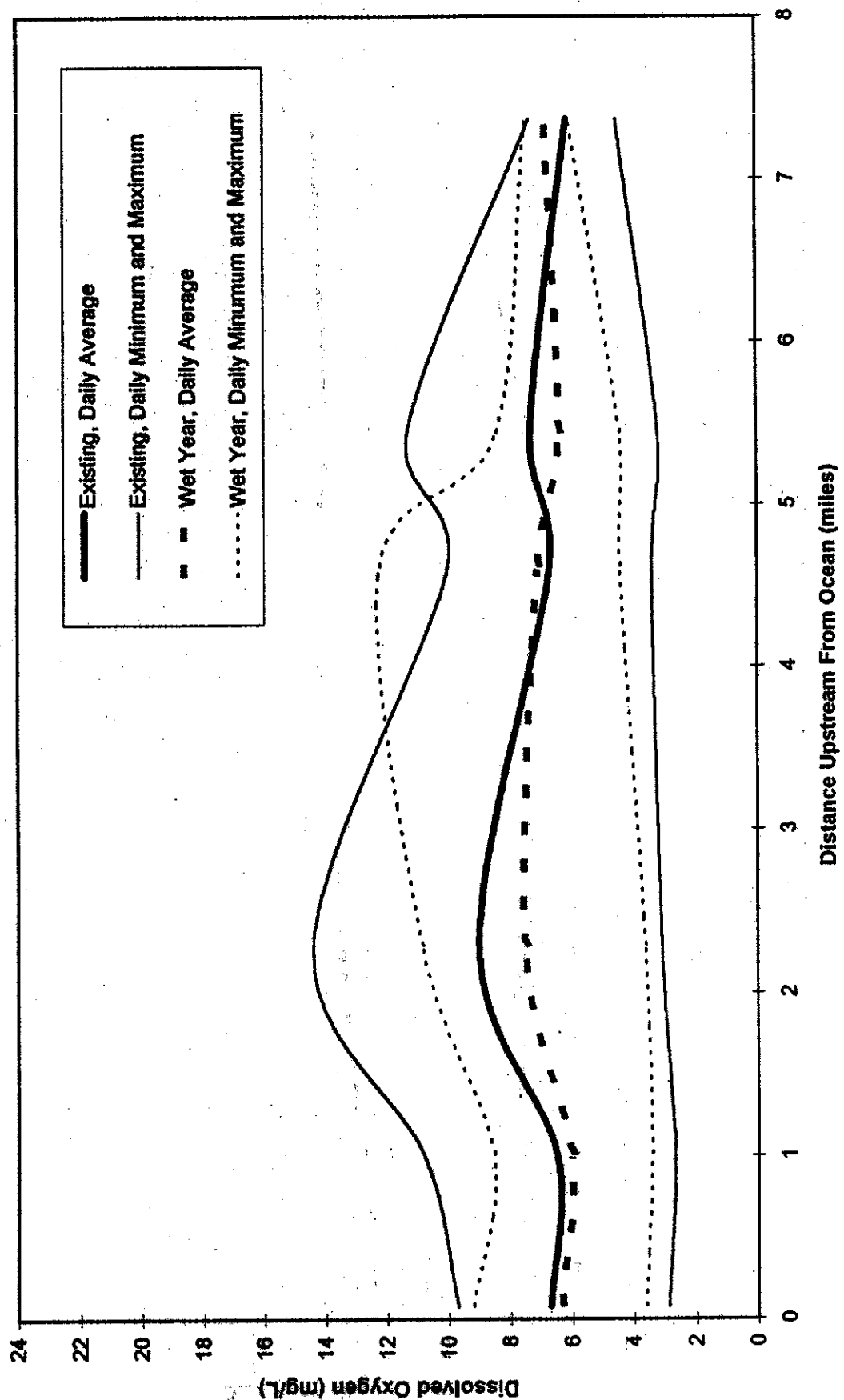


Chart1

Figure 6-5.5. Irrigation and Storage Impacts on Dissolved Oxygen in Estero Amer
Spring Inflow and Bar-Closed Conditions

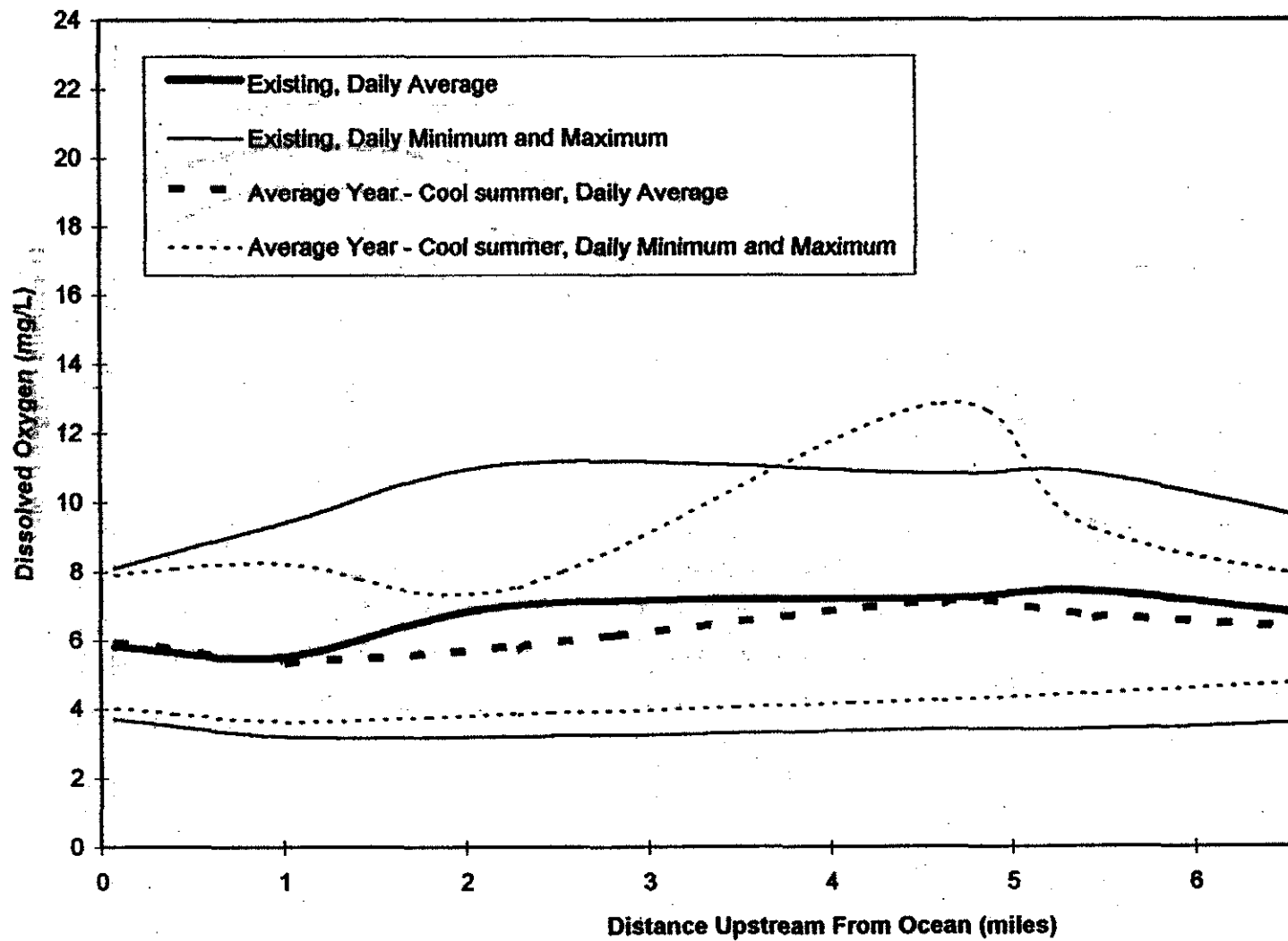
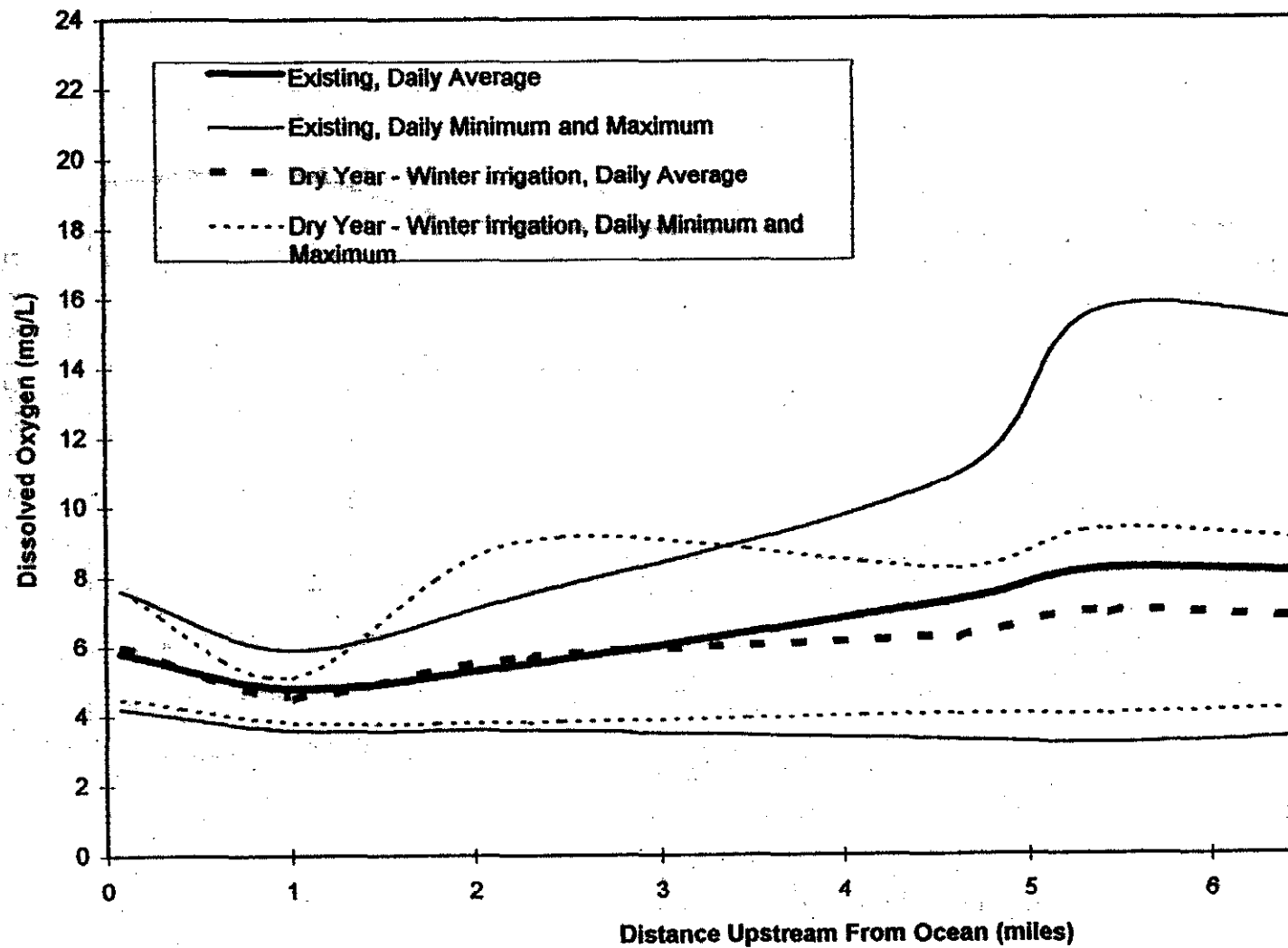


Chart3

Figure 6-5.6. Irrigation and Storage Impacts on Dissolved Oxygen in Estero Amer
Spring Inflow and Bar-Closed Conditions



**Figure 6-5.7. Irrigation and Storage Impacts on Dissolved Oxygen in Estero Americano
Summer Inflow and Bar-Open Conditions**

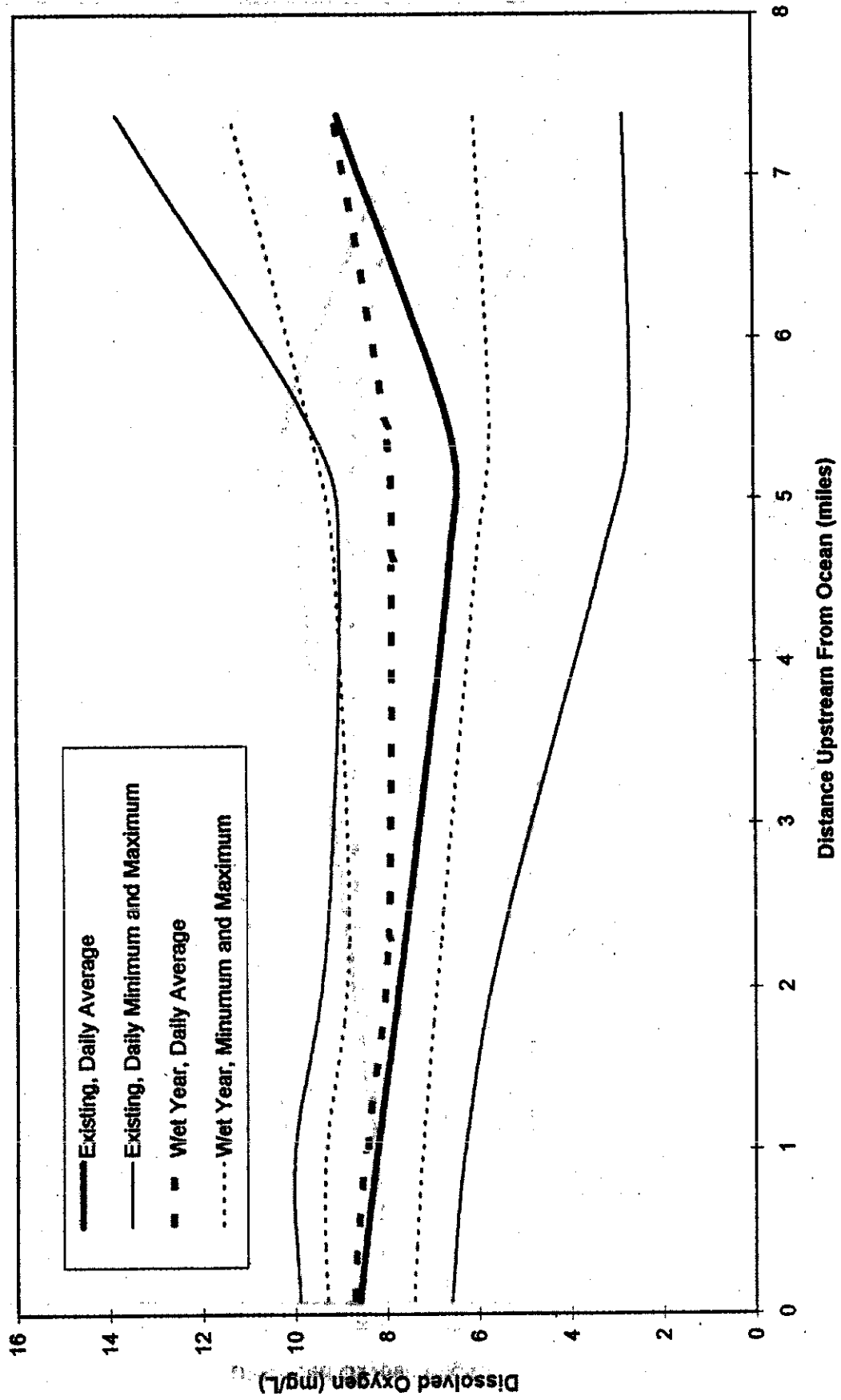


Figure 6-5.8. Irrigation and Storage Impacts on Dissolved Oxygen In Estero Americano
Summer Inflow and Bar-Open Conditions

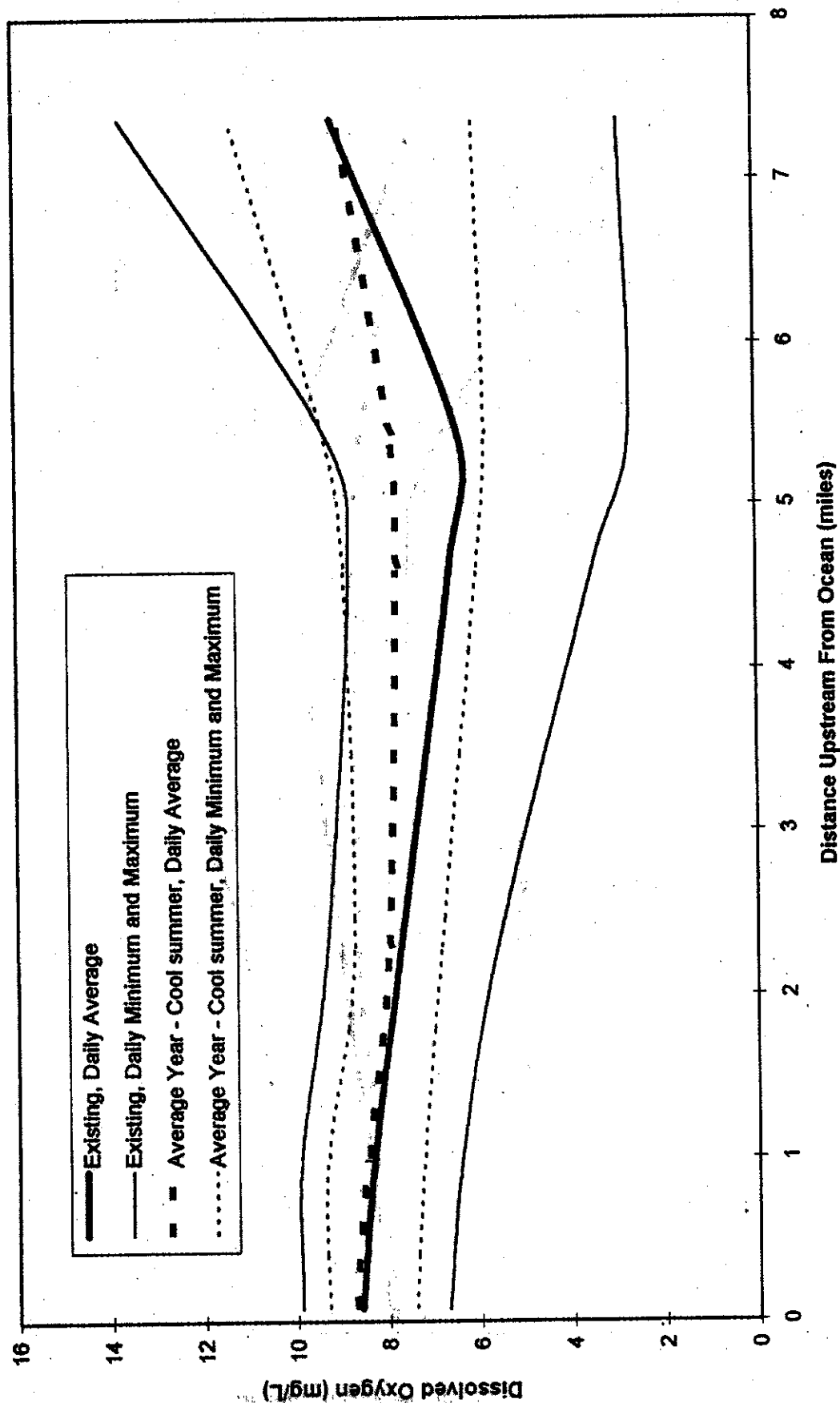


Chart4

**Figure 6-5.9. Irrigation and Storage Impacts on Dissolved Oxygen in Estero Amerio
Summer Inflow and Bar-Open Conditions**

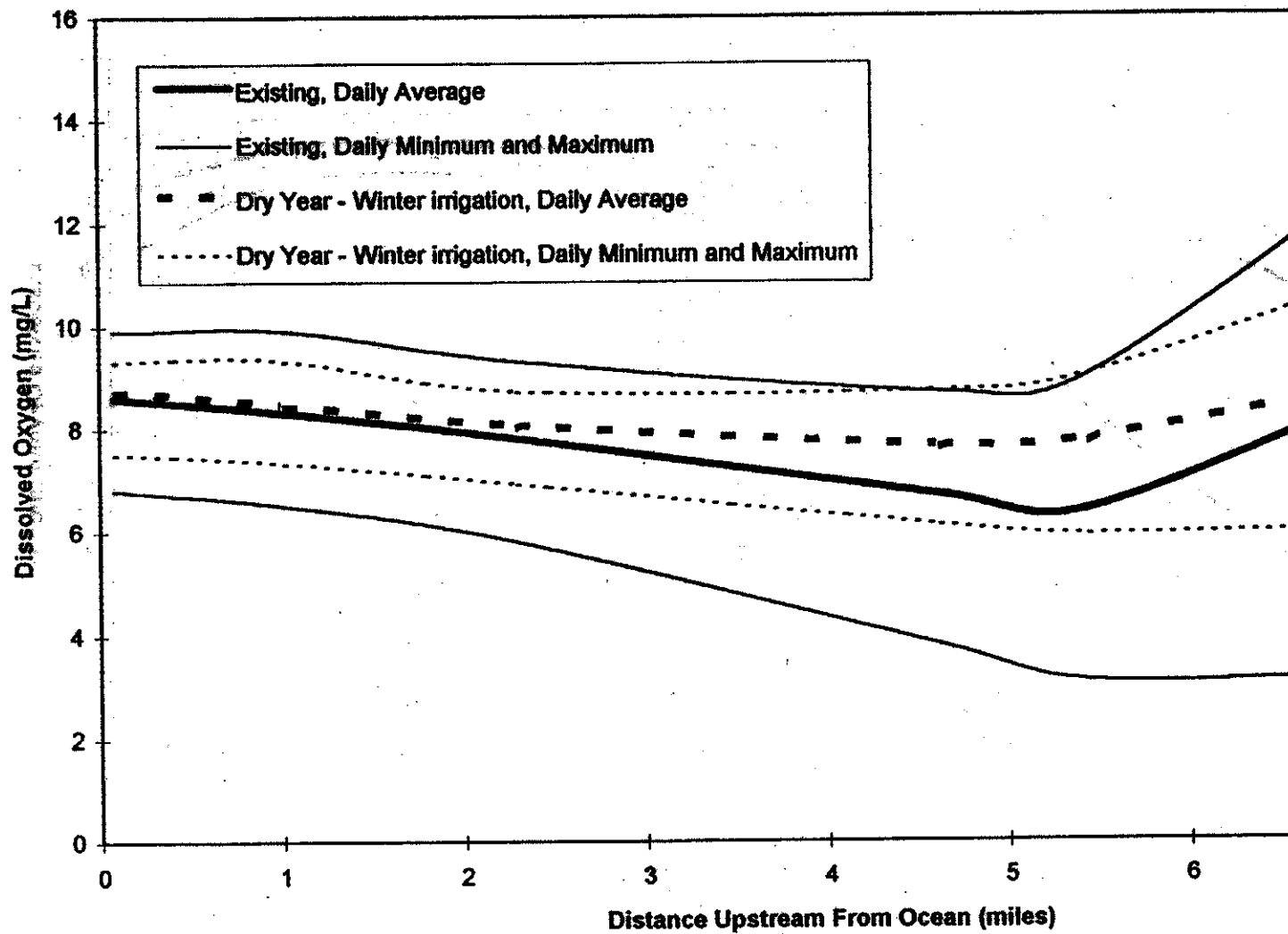


Chart6

Figure 6.5.10. Irrigation and Storage Impacts on Dissolved Oxygen In Estero Amer
Summer Inflow and Bar-Closed Conditions

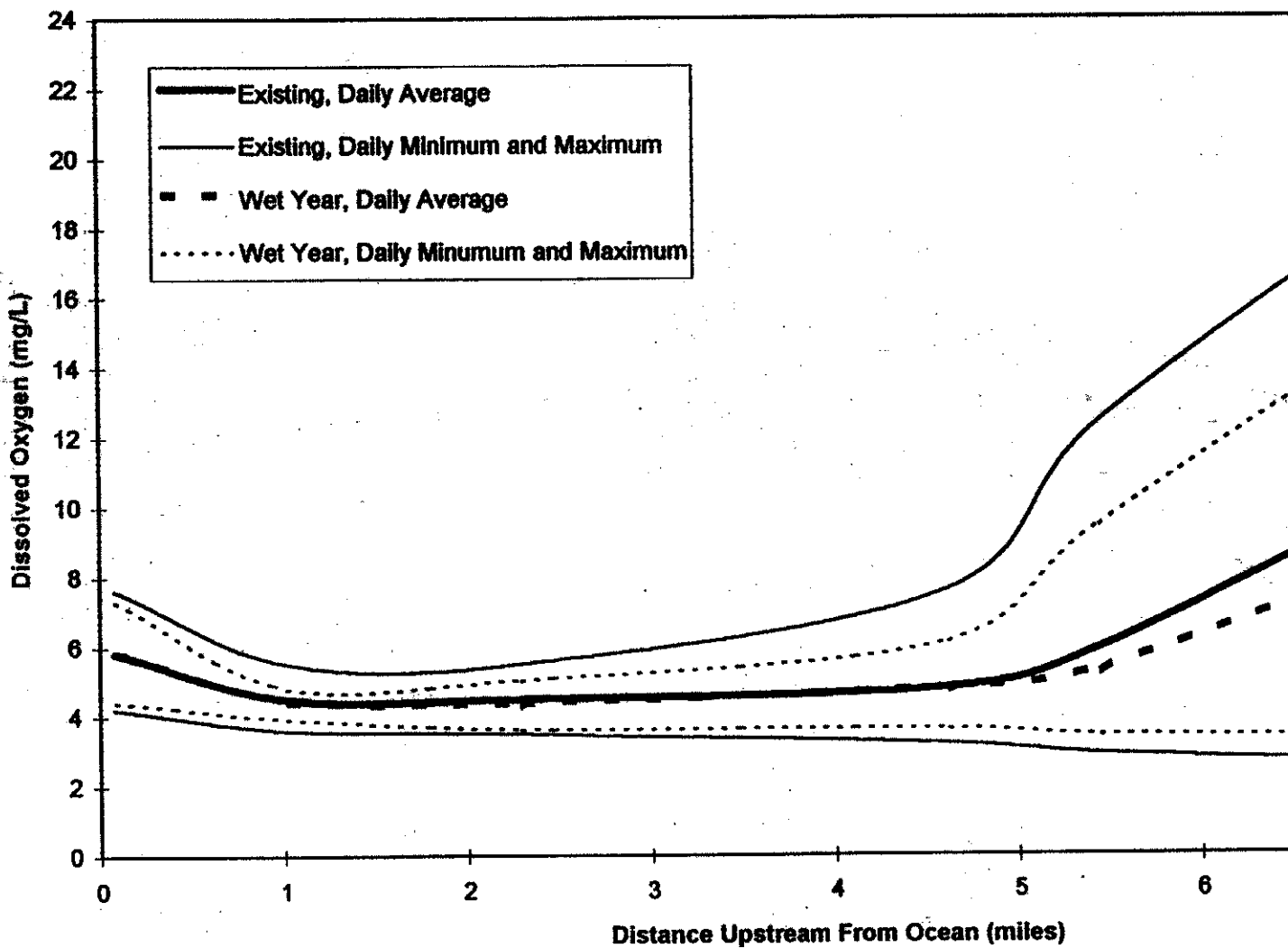


Chart2

**Figure 6-5.11. Irrigation and Storage Impacts on Dissolved Oxygen In Estero Ame
Summer Inflow and Bar-Closed Conditions**

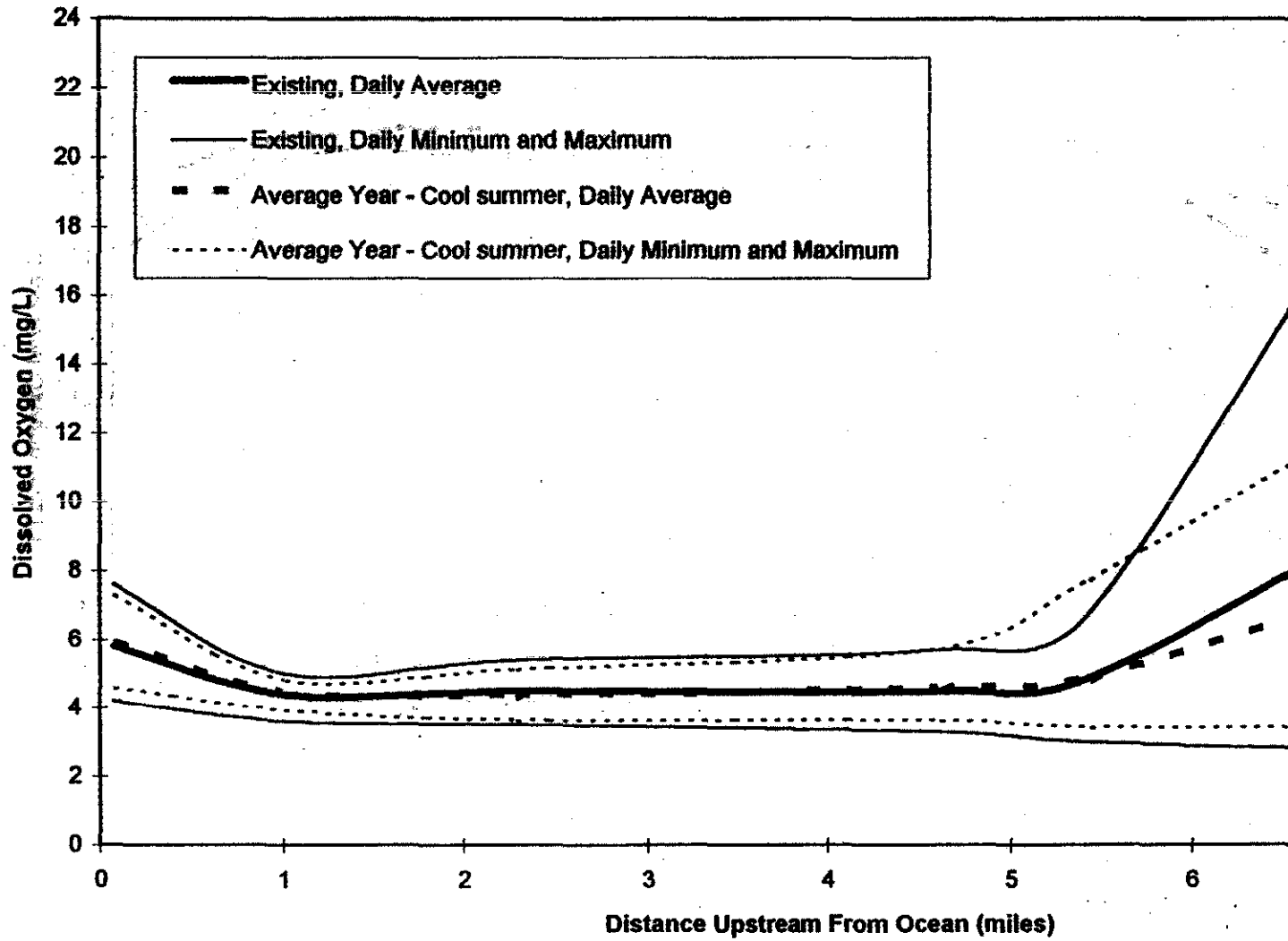


Chart4

Figure 6-5.12. Irrigation and Storage Impacts on Dissolved Oxygen In Estero Amer
Summer Inflow and Bar-Closed Conditions

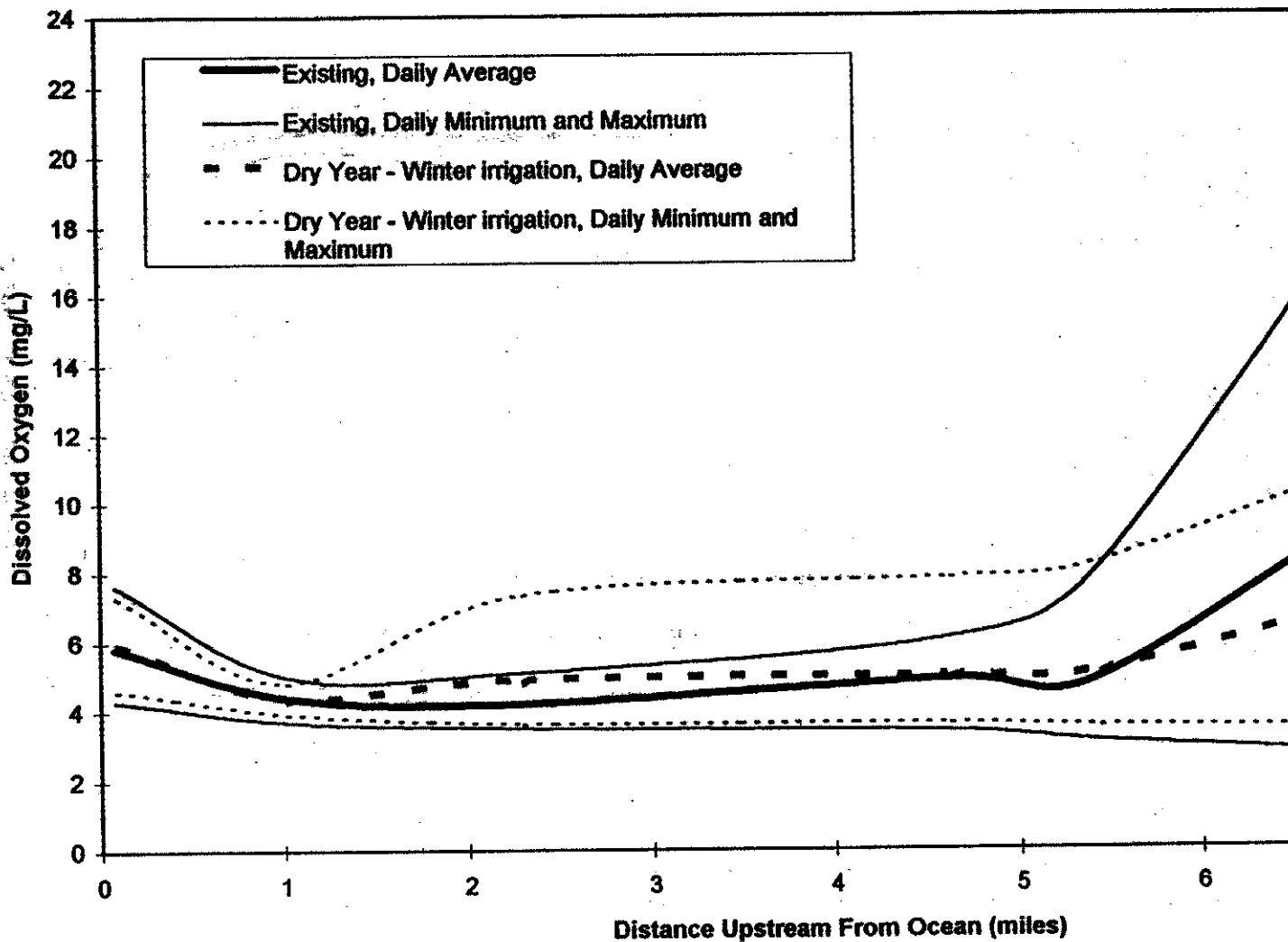
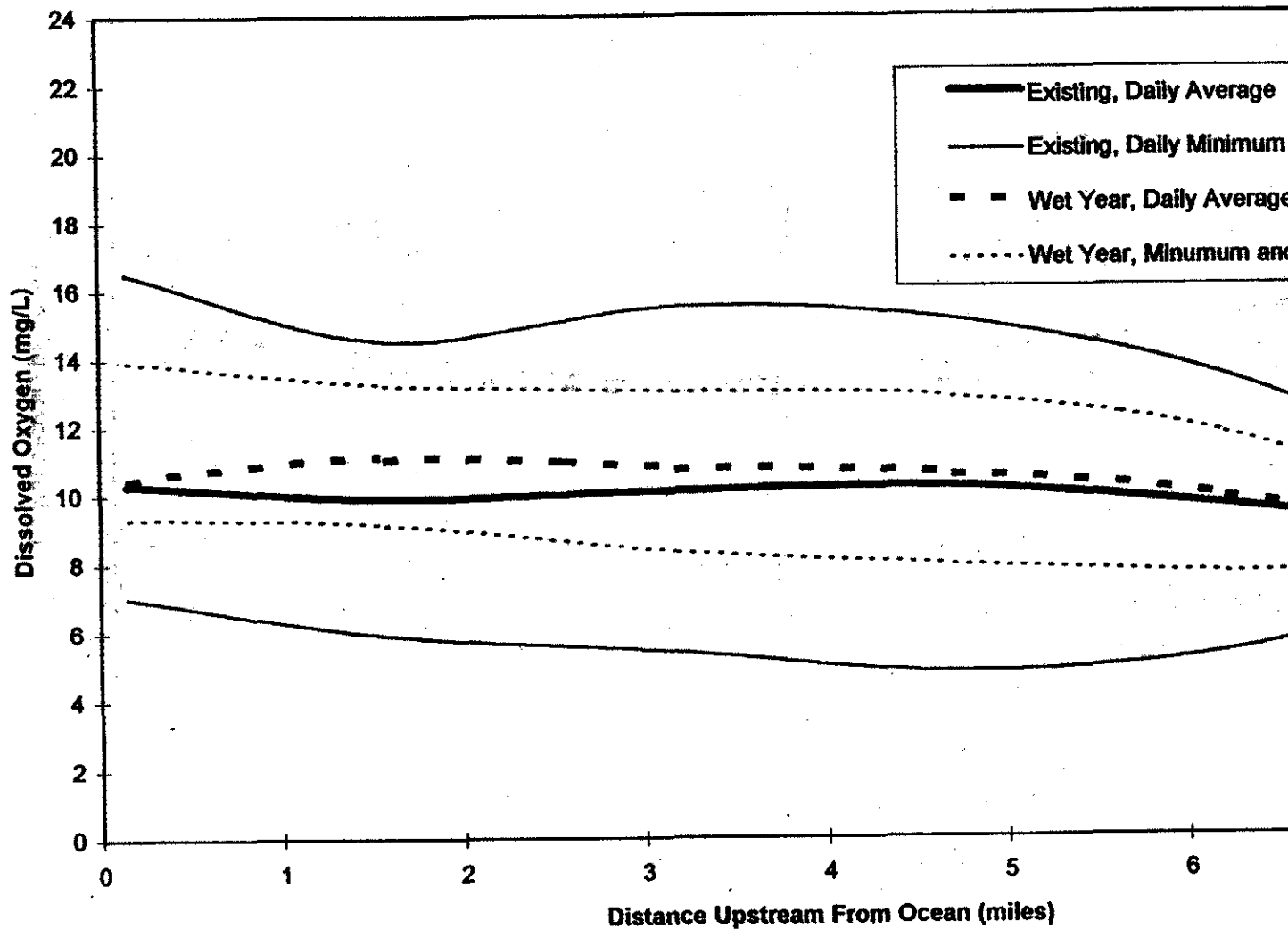


Chart5

**Figure 6-5.13. Irrigation and Storage Impacts on Dissolved Oxygen In Estero de San
Spring Inflow and Bar-Open Conditions**



**Figure 6-5.14. Irrigation and Storage Impacts on Dissolved Oxygen in Estero de San Antonio
Spring Inflow and Bar-Open Conditions**

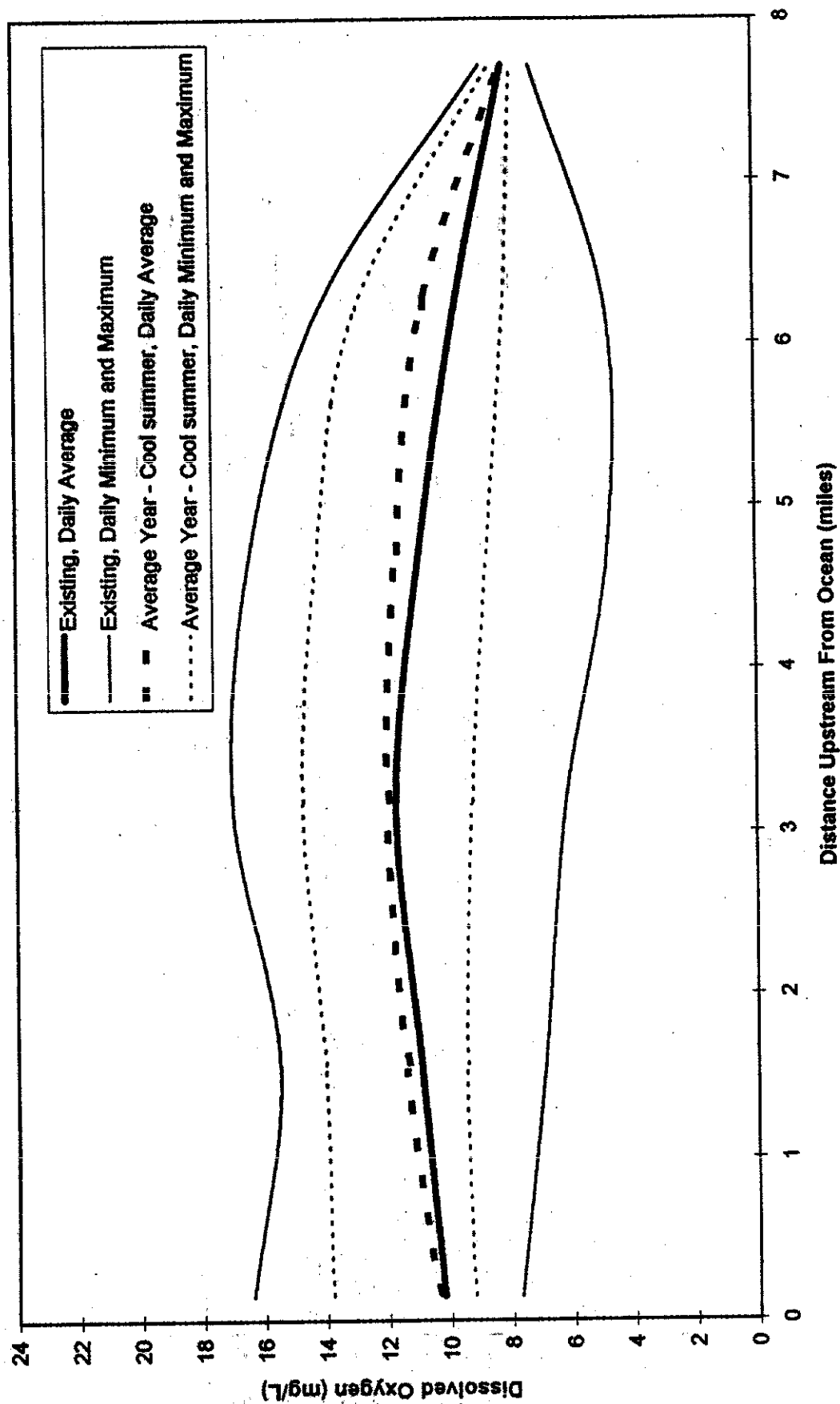


Chart3

**Figure 6-5.15. Irrigation and Storage Impacts on Dissolved Oxygen In Estero de San
Spring Inflow and Bar-Open Conditions**

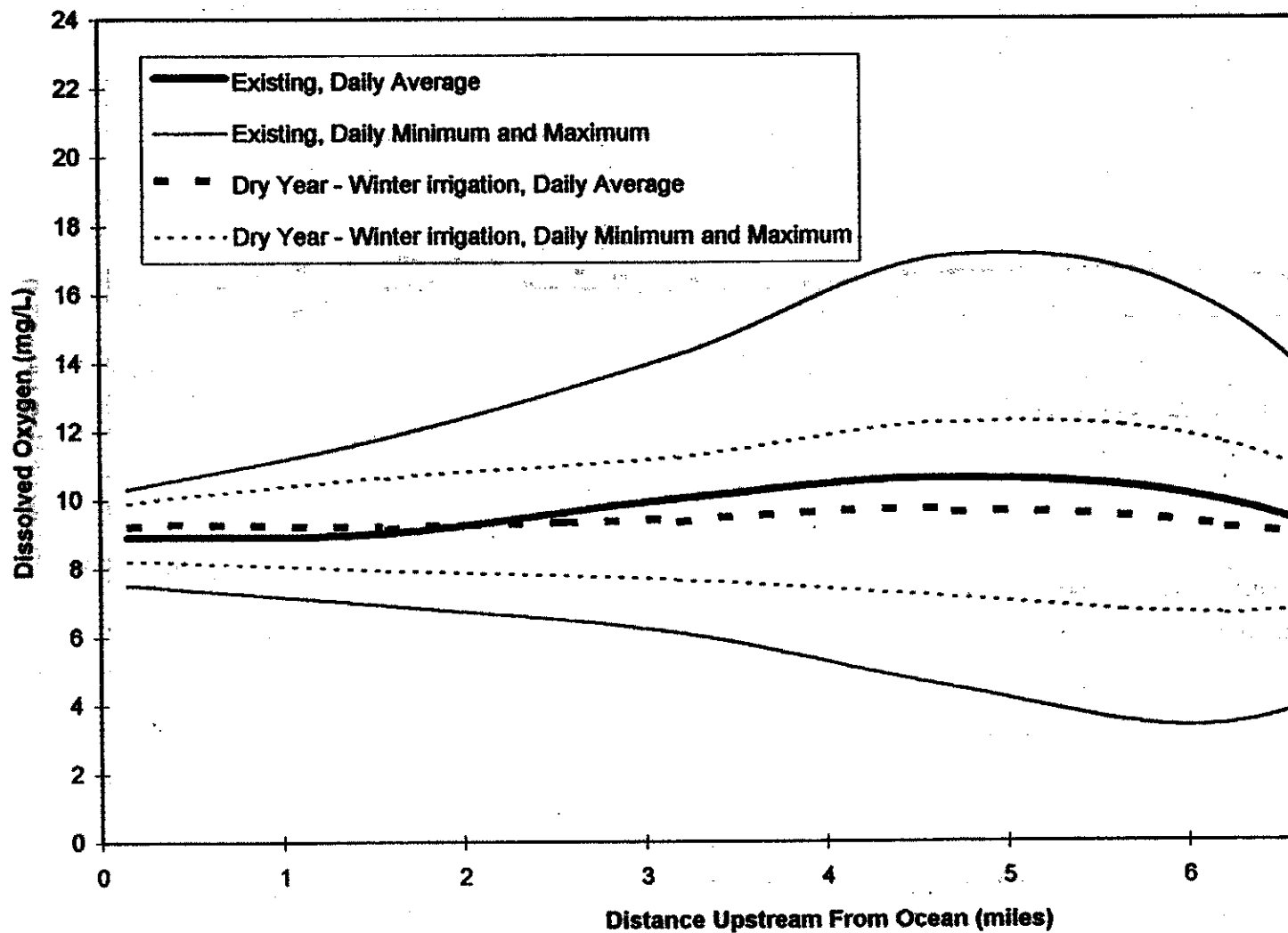


Chart5

Figure 6-5.16. Irrigation and Storage Impacts on Dissolved Oxygen in Estero de San Jacinto Under Spring Inflow and Bar-Closed Conditions

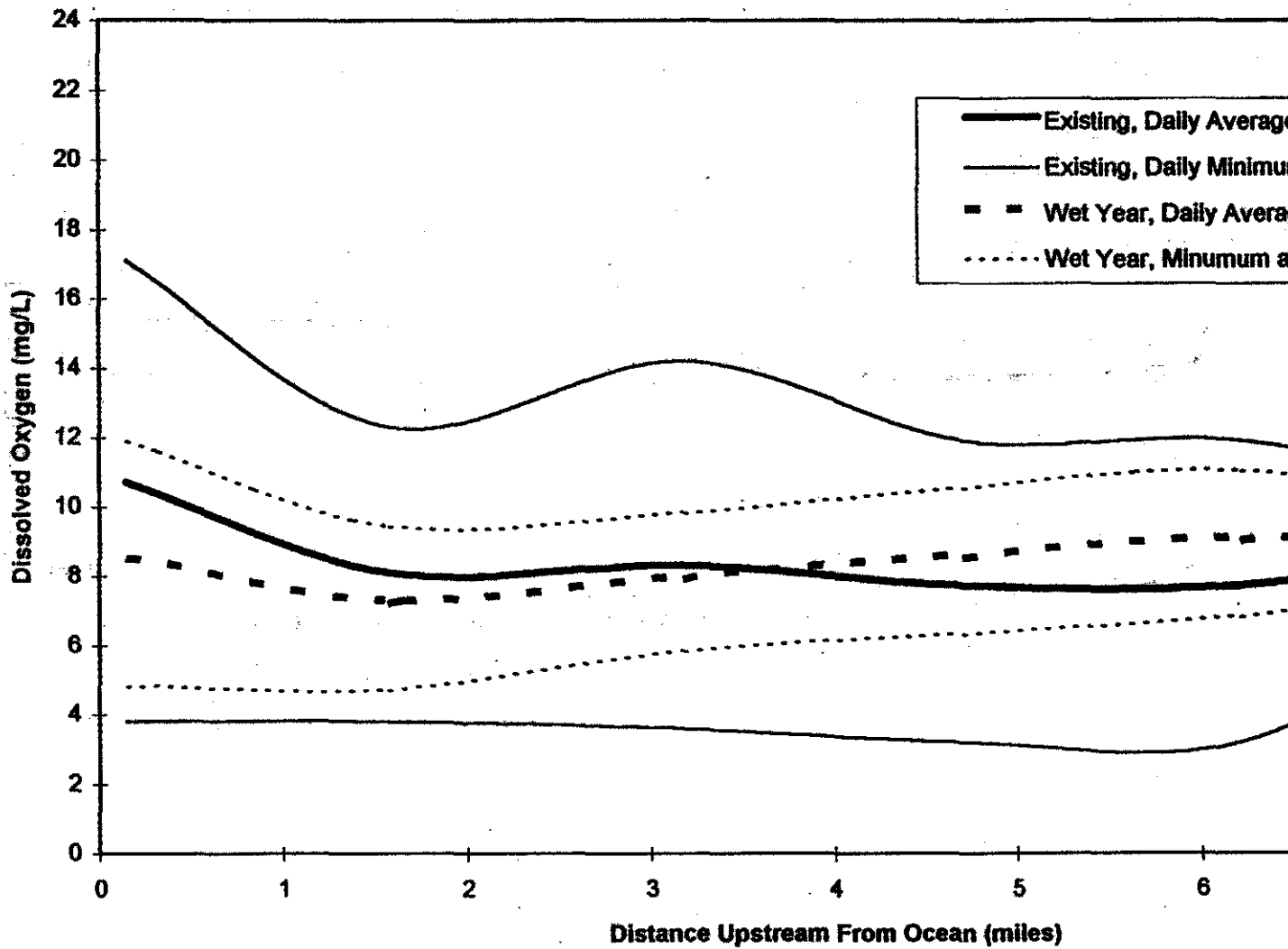


Chart1

**Figure 6-5.17. Irrigation and Storage Impacts on Dissolved Oxygen In Estero de San
Spring Inflow and Bar-Closed Conditions**

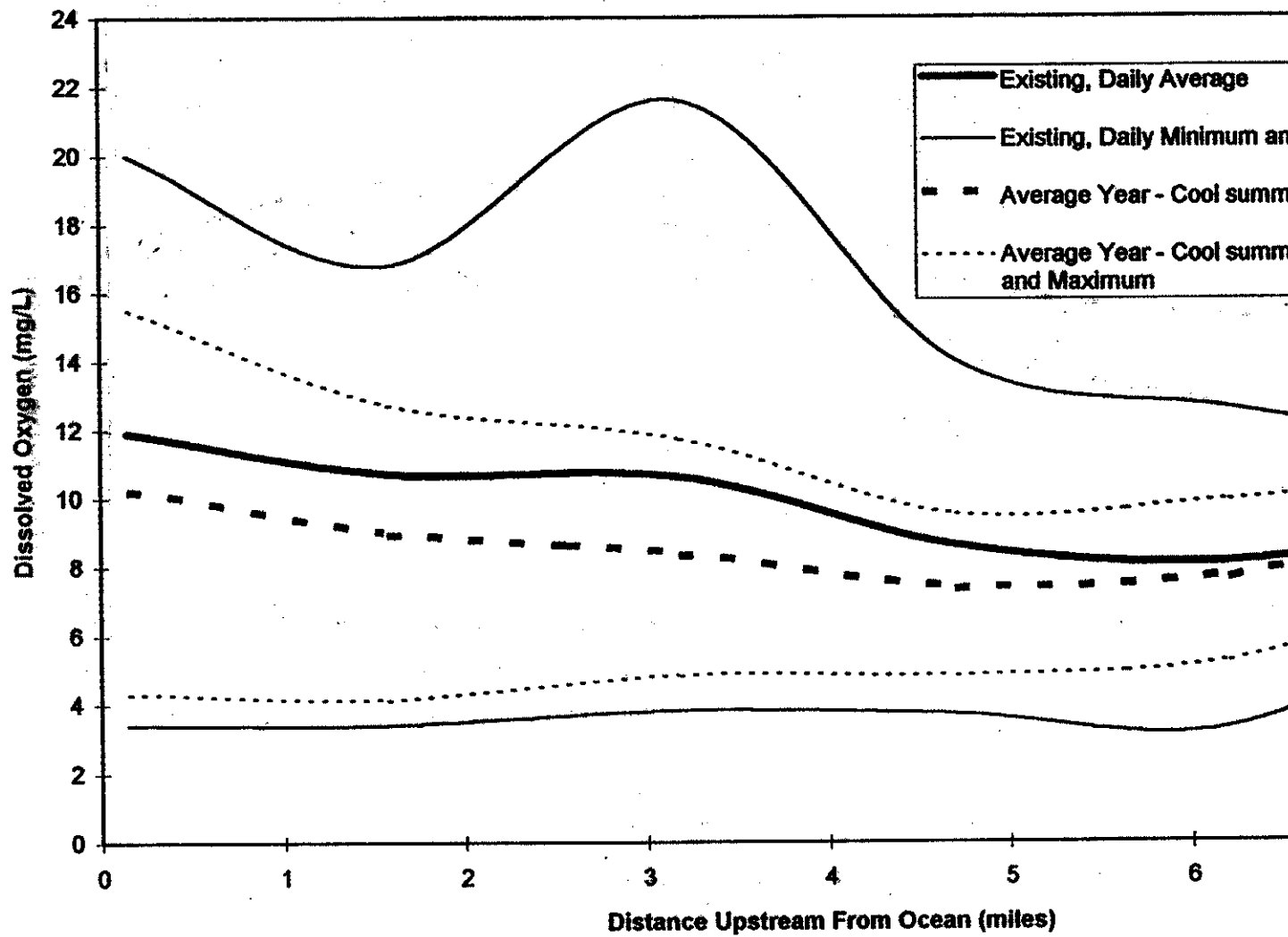


Chart3

**Figure 6-5.18. Irrigation and Storage Impacts on Dissolved Oxygen In Estero de San
Spring Inflow and Bar-Closed Conditions**

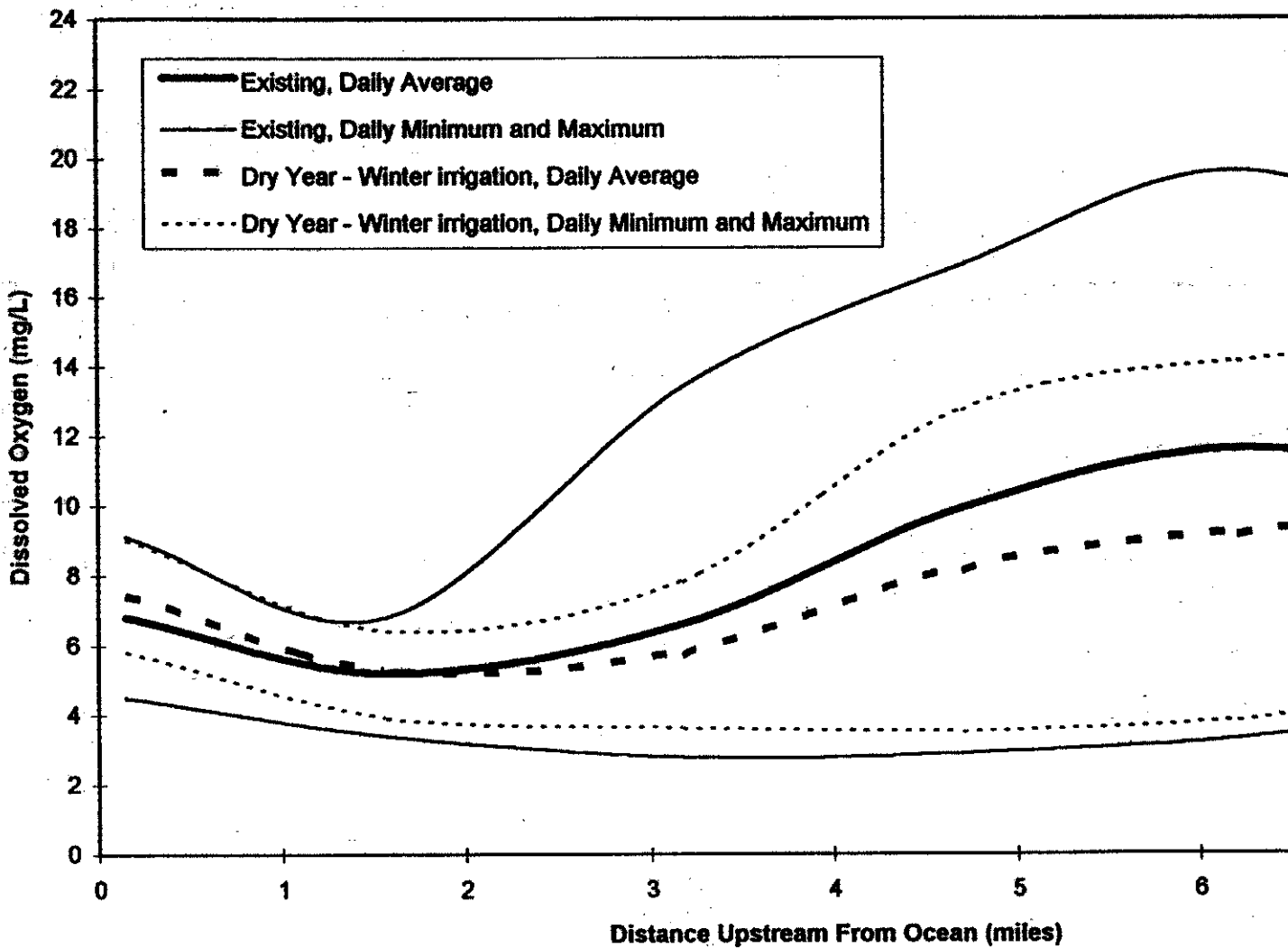
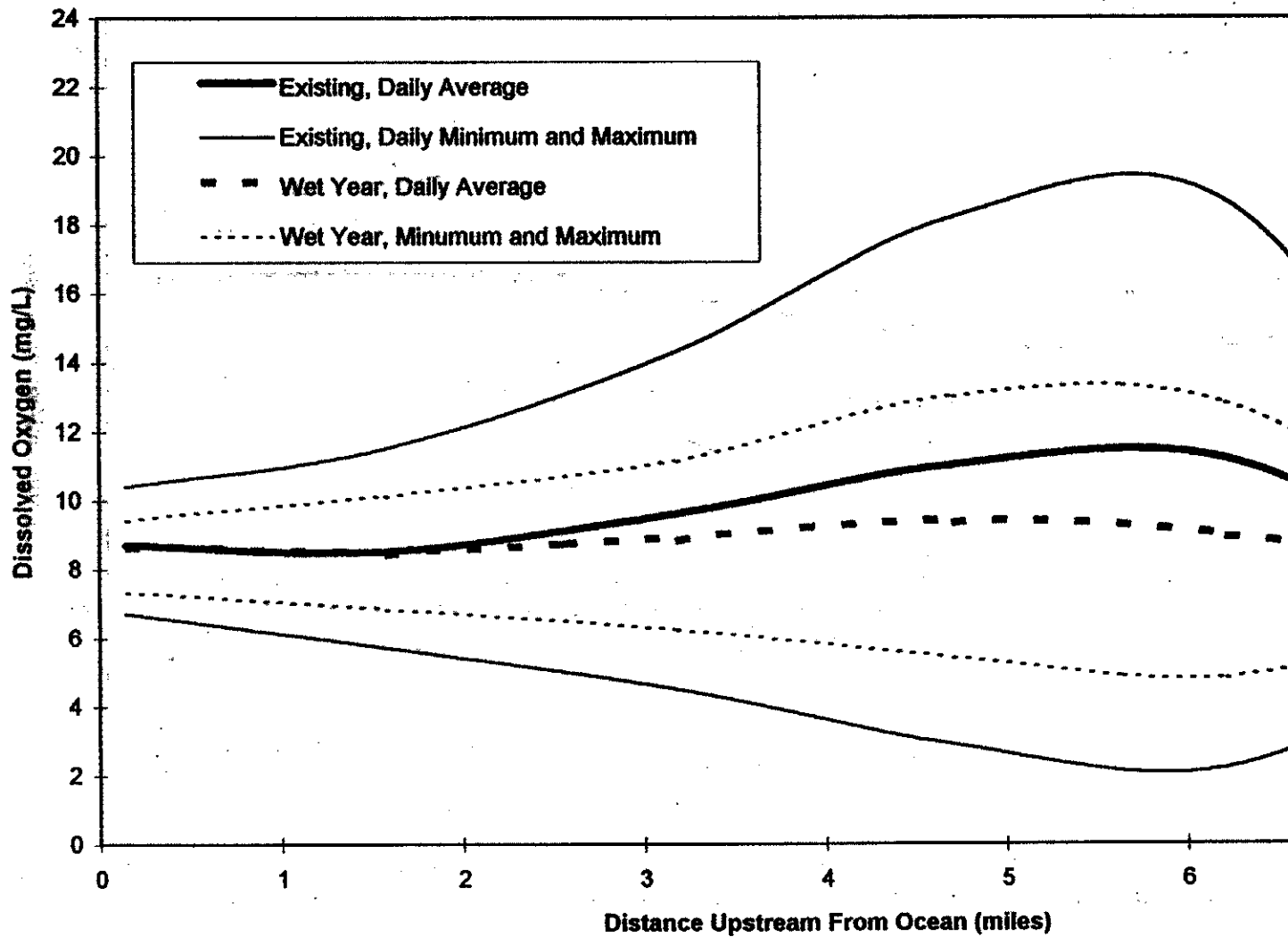
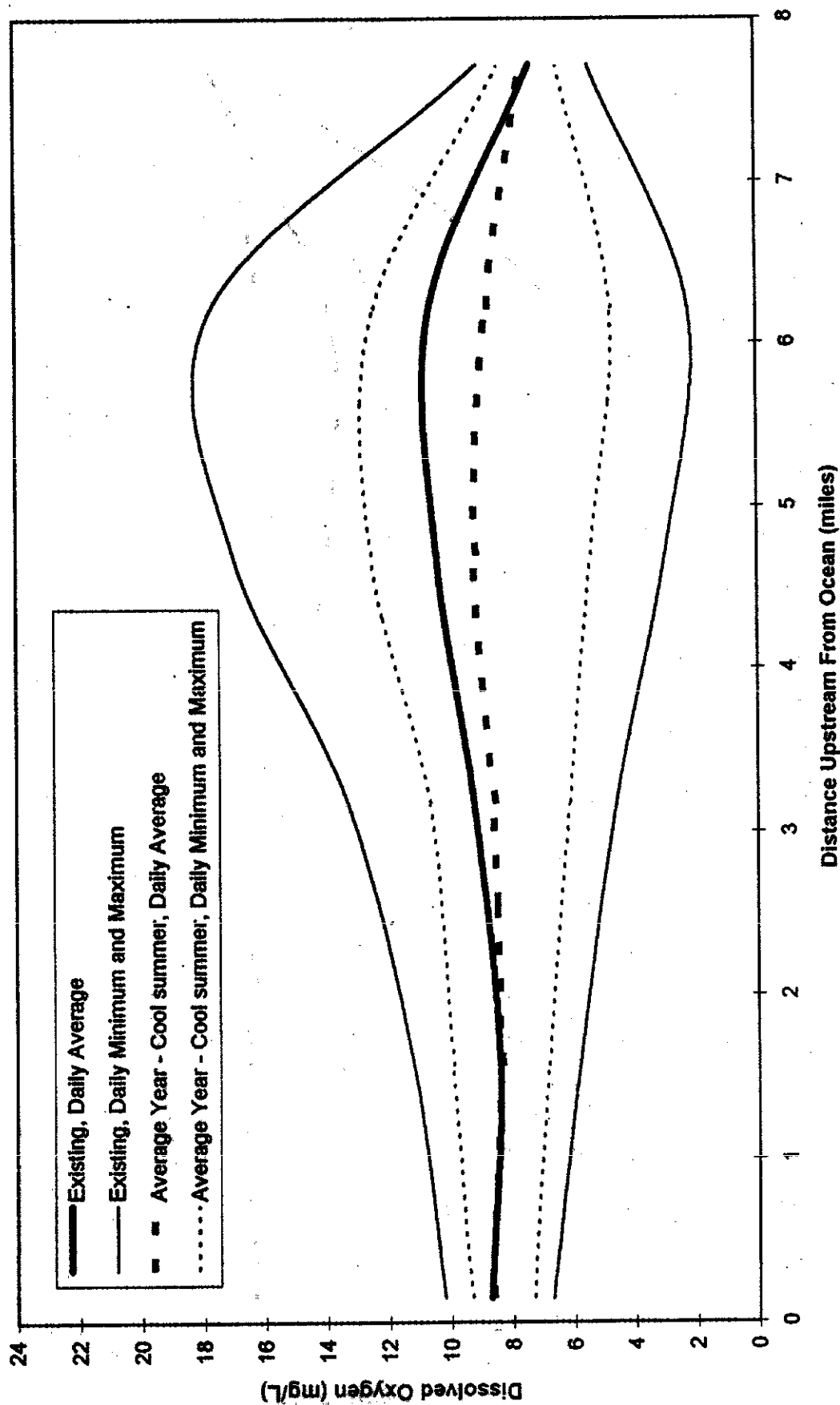


Chart6

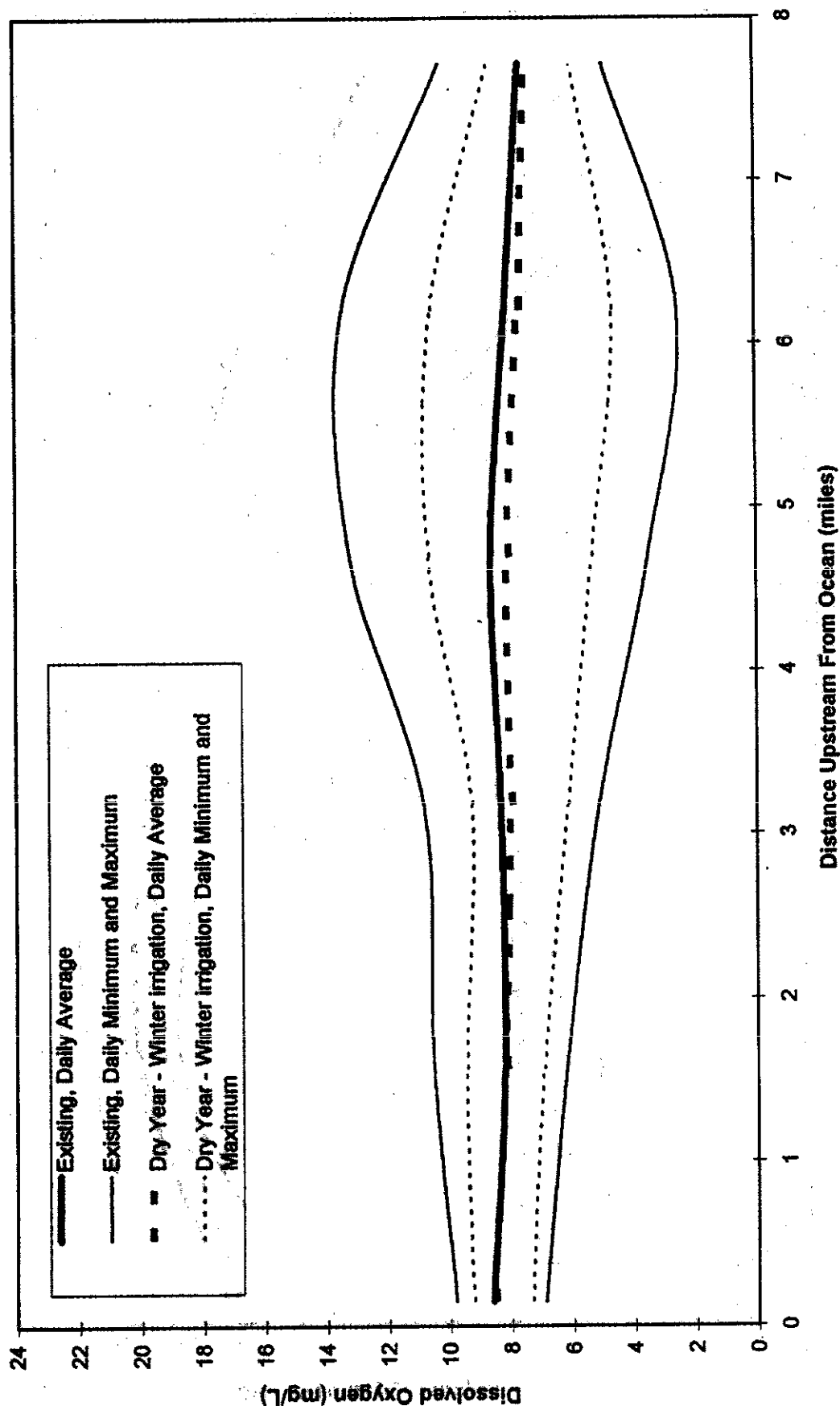
**Figure 6-5.19. Irrigation and Storage Impacts on Dissolved Oxygen in Estero de San
Summer Inflow and Bar-Open Conditions**



**Figure 6-5.20. Irrigation and Storage Impacts on Dissolved Oxygen in Estero de San Antonio
Summer Inflow and Bar-Open Conditions**



**Figure 6-5.21. Irrigation and Storage Impacts on Dissolved Oxygen in Estero de San Antonio
Summer Inflow and Bar-Open Conditions**



**Figure 6-5.22. Irrigation and Storage Impacts on Dissolved Oxygen in Estero de San Antonio
Summer Inflow and Bar-Closed Conditions**

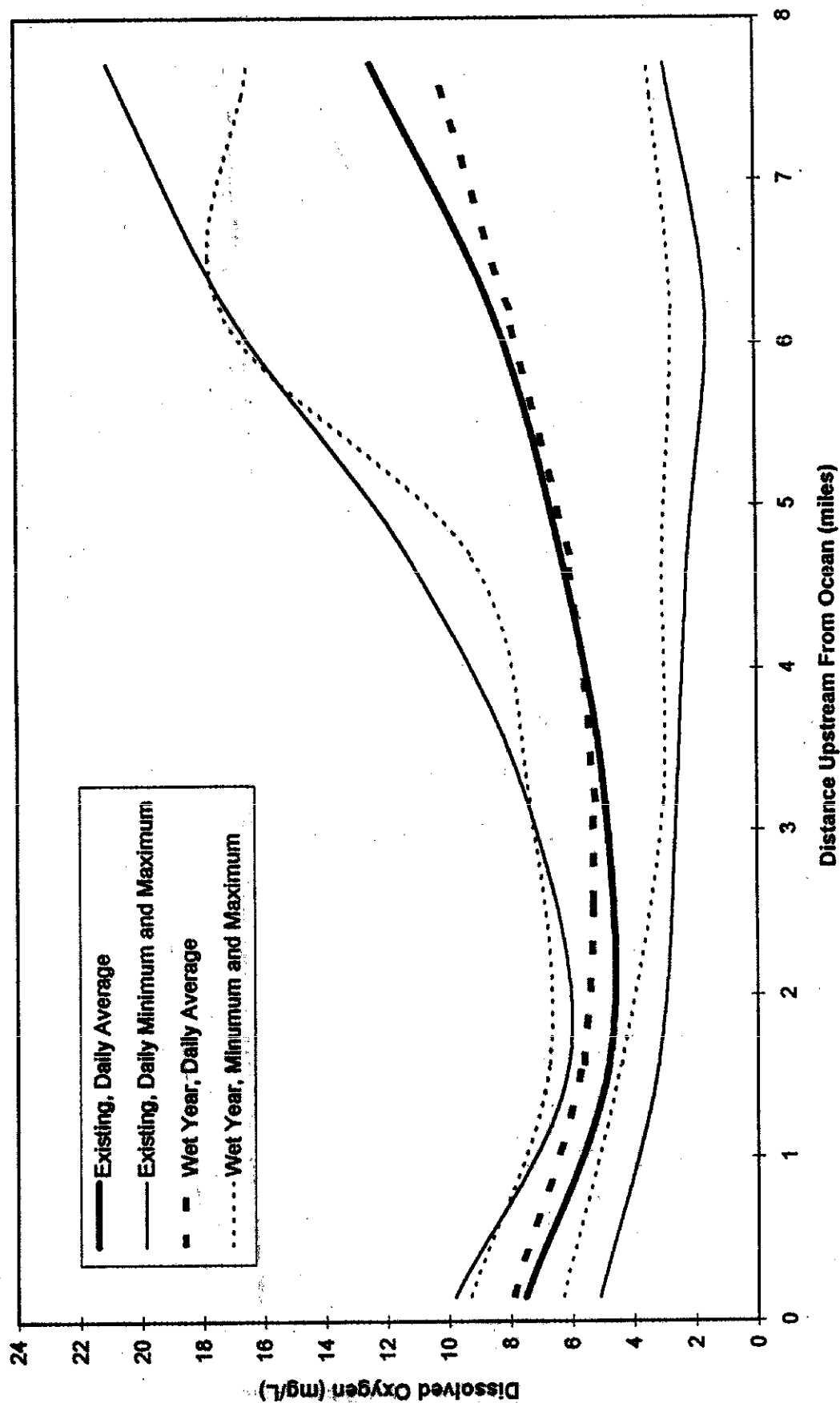


Chart2

**Figure 6-5.23. Irrigation and Storage Impacts on Dissolved Oxygen In Estero de San
Summer Inflow and Bar-Closed Conditions**

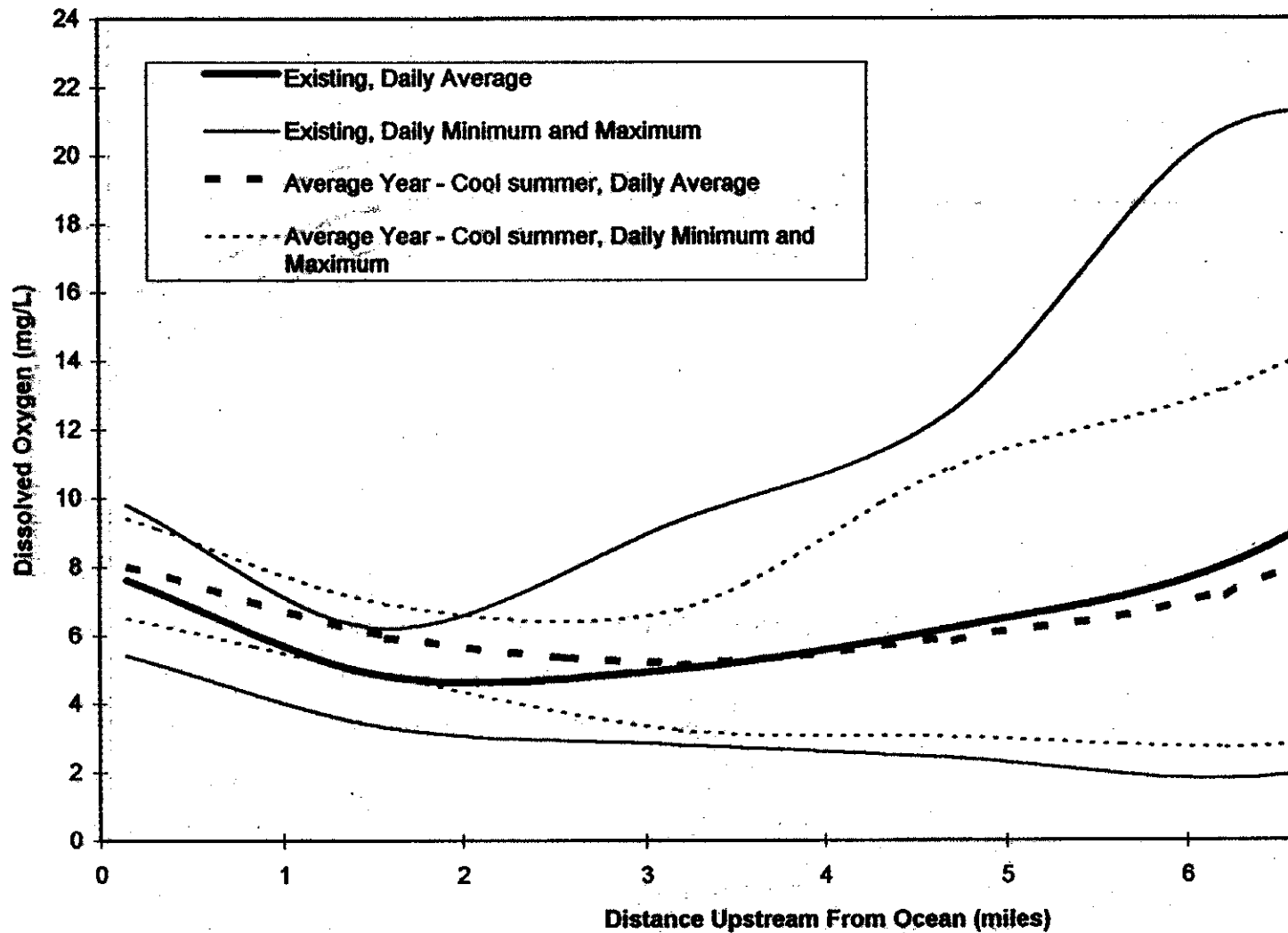


Chart4

**Figure 6-5.24. Irrigation and Storage Impacts on Dissolved Oxygen in Estero de San
Summer Inflow and Bar-Closed Conditions**

