

Sitios de monitoreo de calidad del agua superficial, según el indicador de DBO5 por región Hidrológico-Administrativa (porcentaje)

| Región Hidrológico Administrativa | Año          | Calidad reportada |       |           |             |                         |     |
|-----------------------------------|--------------|-------------------|-------|-----------|-------------|-------------------------|-----|
|                                   |              | Excelente         | Buena | Aceptable | Contaminada | Fuertemente contaminada |     |
| I. Península de Baja California   | 2003         | 43.7              | 12.5  | 18.8      | 25.0        | 0.0                     |     |
|                                   | 2004         | 40.0              | 20.0  | 33.3      | 6.7         | 0.0                     |     |
|                                   | 2005         | 53.0              | 7.0   | 27.0      | 13.0        | 0.0                     |     |
|                                   | 2006         | 46.7              | 13.3  | 26.7      | 6.7         | 6.7                     |     |
|                                   | 2007         | 46.1              | 23.1  | 23.1      | 7.7         | 0.0                     |     |
|                                   | 2008         | 25.0              | 8.3   | 50.0      | 12.5        | 4.2                     |     |
|                                   | 2009         | 27.3              | 9.1   | 45.5      | 13.6        | 4.5                     |     |
|                                   | 2010         | 33.3              | 9.5   | 33.3      | 23.9        | 0.0                     |     |
|                                   | 2011         | 7.7               | 7.7   | 53.8      | 30.8        | 0.0                     |     |
|                                   | 2012         | 18.8              | 22.4  | 35.3      | 18.8        | 4.7                     |     |
|                                   | 2013         | 1.2               | 23.8  | 34.5      | 38.1        | 2.4                     |     |
|                                   | 2014         | 3.9               | 10.5  | 51.3      | 28.9        | 5.3                     |     |
|                                   | II. Noroeste | 2003              | 80.0  | 20.0      | 0.0         | 0.0                     | 0.0 |
|                                   |              | 2004              | 38.5  | 15.4      | 30.8        | 7.7                     | 7.7 |
| 2005                              |              | 50.0              | 21.4  | 7.1       | 21.4        | 0.0                     |     |
| 2006                              |              | 21.4              | 28.6  | 0.0       | 42.9        | 7.1                     |     |
| 2007                              |              | 14.3              | 35.7  | 14.3      | 28.6        | 7.1                     |     |
| 2008                              |              | 60.0              | 10.0  | 20.0      | 5.0         | 5.0                     |     |
| 2009                              |              | 50.0              | 26.5  | 23.5      | 0.0         | 0.0                     |     |
| 2010                              |              | 51.2              | 23.1  | 20.5      | 2.6         | 2.6                     |     |
| 2011                              |              | 52.8              | 22.2  | 16.7      | 8.3         | 0.0                     |     |
| 2012                              |              | 15.5              | 70.4  | 12.7      | 1.4         | 0.0                     |     |
| 2013                              |              | 11.8              | 53.9  | 31.6      | 1.3         | 1.4                     |     |
| 2014                              |              | 31.5              | 31.5  | 34.2      | 2.7         | 0.0                     |     |
| III. Pacífico Norte               |              | 2003              | 70.0  | 15.0      | 15.0        | 0.0                     | 0.0 |
|                                   |              | 2004              | 70.7  | 17.1      | 9.8         | 2.4                     | 0.0 |
|                                   | 2005         | 65.9              | 17.1  | 12.2      | 4.9         | 0.0                     |     |
|                                   | 2006         | 64.3              | 16.7  | 14.3      | 2.4         | 2.4                     |     |
|                                   | 2007         | 65.9              | 14.6  | 17.1      | 2.4         | 0.0                     |     |
|                                   | 2008         | 68.3              | 14.6  | 14.6      | 2.5         | 0.0                     |     |
|                                   | 2009         | 70.7              | 12.2  | 17.1      | 0.0         | 0.0                     |     |
|                                   | 2010         | 70.7              | 12.2  | 17.1      | 0.0         | 0.0                     |     |
|                                   | 2011         | 61.0              | 19.5  | 17.1      | 2.4         | 0.0                     |     |
|                                   | 2012         | 32.3              | 57.9  | 8.7       | 1.0         | 0.0                     |     |
|                                   | 2013         | 12.5              | 60.5  | 26.5      | 0.5         | 0.0                     |     |
|                                   | 2014         | 18.4              | 32.5  | 48.1      | 1.0         | 0.0                     |     |
|                                   | IV. Balsas   | 2003              | 28.2  | 15.4      | 23.1        | 28.2                    | 5.1 |
|                                   |              | 2004              | 32.6  | 14.0      | 27.9        | 20.9                    | 4.7 |
| 2005                              |              | 33.3              | 21.4  | 16.7      | 21.4        | 7.1                     |     |
| 2006                              |              | 28.6              | 23.8  | 21.4      | 21.4        | 4.8                     |     |
| 2007                              |              | 36.2              | 19.1  | 23.4      | 19.1        | 2.2                     |     |
| 2008                              |              | 32.7              | 20.7  | 32.8      | 8.6         | 5.2                     |     |
| 2009                              |              | 16.6              | 23.8  | 41.7      | 13.1        | 4.8                     |     |

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| Región Hidrológico Administrativa | Año  | Calidad reportada |       |           |             |                         |
|-----------------------------------|------|-------------------|-------|-----------|-------------|-------------------------|
|                                   |      | Excelente         | Buena | Aceptable | Contaminada | Fuertemente contaminada |
| IV. Balsas                        | 2010 | 38.5              | 29.9  | 17.1      | 11.1        | 3.4                     |
|                                   | 2011 | 16.7              | 35.8  | 34.6      | 11.2        | 1.7                     |
|                                   | 2012 | 31.2              | 16.9  | 32.6      | 15.7        | 3.6                     |
|                                   | 2013 | 17.9              | 17.3  | 43.9      | 17.0        | 3.9                     |
|                                   | 2014 | 25.1              | 28.0  | 28.7      | 13.7        | 4.6                     |
| V. Pacífico Sur                   | 2003 | 0.0               | 0.0   | -         | 0.0         | 0.0                     |
|                                   | 2004 | 0.0               | 0.0   | 0.0       | 0.0         | 0.0                     |
|                                   | 2006 | 100.0             | 0.0   | 0.0       | 0.0         | 0.0                     |
|                                   | 2007 | 77.8              | 22.2  | 0.0       | 0.0         | 0.0                     |
|                                   | 2008 | 0.0               | 0.0   | 0.0       | 0.0         | 0.0                     |
|                                   | 2009 | 0.0               | 0.0   | 0.0       | 0.0         | 0.0                     |
|                                   | 2010 | 0.0               | 0.0   | 0.0       | 0.0         | 0.0                     |
|                                   | 2011 | 0.0               | 20.0  | 20.0      | 20.0        | 20.0                    |
|                                   | 2012 | 36.2              | 43.1  | 16.4      | 3.4         | 0.9                     |
|                                   | 2013 | 26.2              | 39.3  | 29.5      | 5.0         | 0.0                     |
|                                   | 2014 | 32.4              | 46.5  | 19.0      | 2.1         | 0.0                     |
| VI. Río Bravo                     | 2003 | 69.2              | 7.7   | 23.1      | 0.0         | 0.0                     |
|                                   | 2004 | 60.5              | 13.2  | 23.7      | 2.6         | 0.0                     |
|                                   | 2005 | 31.6              | 15.8  | 52.6      | 0.0         | 0.0                     |
|                                   | 2006 | 55.6              | 7.4   | 22.2      | 11.1        | 3.7                     |
|                                   | 2007 | 11.4              | 68.6  | 17.1      | 2.9         | 0.0                     |
|                                   | 2008 | 23.9              | 54.3  | 17.4      | 4.4         | 0.0                     |
|                                   | 2009 | 48.6              | 46.2  | 2.6       | 2.6         | 0.0                     |
|                                   | 2010 | 29.1              | 45.3  | 24.4      | 1.2         | 0.0                     |
|                                   | 2011 | 35.8              | 42.0  | 22.2      | 0.0         | 0.0                     |
|                                   | 2012 | 63.8              | 19.0  | 14.5      | 2.3         | 0.5                     |
|                                   | 2013 | 46.9              | 20.3  | 31.1      | 1.7         | 0.0                     |
| VII. Cuencas Centrales del Norte  | 2003 | 90.0              | 10.0  | 0.0       | 0.0         | 0.0                     |
|                                   | 2004 | 81.8              | 18.2  | 0.0       | 0.0         | 0.0                     |
|                                   | 2005 | 40.0              | 30.0  | 30.0      | 0.0         | 0.0                     |
|                                   | 2006 | 45.0              | 25.0  | 30.0      | 0.0         | 0.0                     |
|                                   | 2007 | 80.0              | 20.0  | 0.0       | 0.0         | 0.0                     |
|                                   | 2008 | 85.7              | 9.5   | 4.8       | 0.0         | 0.0                     |
|                                   | 2009 | 90.0              | 10.0  | 0.0       | 0.0         | 0.0                     |
|                                   | 2010 | 80.0              | 20.0  | 0.0       | 0.0         | 0.0                     |
|                                   | 2011 | 85.0              | 10.0  | 5.0       | 0.0         | 0.0                     |
|                                   | 2012 | 41.9              | 51.2  | 7.0       | 0.0         | 0.0                     |
|                                   | 2013 | 8.7               | 65.2  | 26.1      | 0.0         | 0.0                     |
| VIII. Lerma-Santiago-Pacífico     | 2003 | 30.1              | 20.5  | 26.0      | 19.2        | 4.2                     |
|                                   | 2004 | 28.2              | 21.4  | 30.1      | 13.6        | 6.8                     |
|                                   | 2005 | 39.5              | 13.6  | 22.2      | 19.8        | 4.9                     |

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| Región Hidrológico Administrativa | Año  | Calidad reportada |       |           |             |                         |
|-----------------------------------|------|-------------------|-------|-----------|-------------|-------------------------|
|                                   |      | Excelente         | Buena | Aceptable | Contaminada | Fuertemente contaminada |
| VIII. Lerma-Santiago-Pacífico     | 2006 | 39.5              | 16.5  | 23.9      | 13.8        | 6.4                     |
|                                   | 2007 | 41.7              | 14.6  | 28.2      | 8.7         | 6.8                     |
|                                   | 2008 | 40.4              | 14.4  | 24.2      | 19.0        | 2.0                     |
|                                   | 2009 | 48.7              | 9.3   | 24.0      | 12.7        | 5.3                     |
|                                   | 2010 | 44.9              | 12.1  | 24.8      | 14.8        | 3.4                     |
|                                   | 2011 | 23.0              | 33.8  | 25.6      | 13.8        | 3.8                     |
|                                   | 2012 | 22.3              | 24.3  | 32.7      | 17.7        | 3.0                     |
|                                   | 2013 | 7.5               | 26.4  | 53.4      | 10.0        | 2.7                     |
|                                   | 2014 | 9.4               | 23.4  | 57.2      | 6.6         | 3.4                     |
| IX. Golfo Norte                   | 2003 | 66.6              | 16.7  | 14.3      | 0.0         | 2.4                     |
|                                   | 2004 | 65.0              | 20.0  | 7.5       | 5.0         | 2.5                     |
|                                   | 2005 | 82.1              | 7.7   | 5.1       | 5.1         | 0.0                     |
|                                   | 2006 | 59.0              | 18.0  | 20.5      | 2.6         | 0.0                     |
|                                   | 2007 | 75.6              | 9.8   | 7.3       | 7.3         | 0.0                     |
|                                   | 2008 | 80.5              | 12.2  | 4.9       | 2.4         | 0.0                     |
|                                   | 2009 | 80.9              | 11.9  | 4.8       | 2.4         | 0.0                     |
|                                   | 2010 | 83.7              | 9.3   | 2.3       | 4.7         | 0.0                     |
|                                   | 2011 | 88.3              | 4.7   | 4.7       | 2.3         | 0.0                     |
|                                   | 2012 | 66.8              | 17.4  | 10.6      | 3.4         | 1.7                     |
|                                   | 2013 | 64.9              | 20.2  | 11.6      | 2.5         | 0.8                     |
| X. Golfo Centro                   | 2003 | 62.2              | 5.4   | 2.7       | 18.9        | 10.8                    |
|                                   | 2004 | 2.4               | 61.9  | 21.4      | 7.1         | 7.1                     |
|                                   | 2005 | 0.0               | 75.6  | 12.2      | 7.3         | 4.9                     |
|                                   | 2006 | 0.0               | 82.0  | 8.0       | 8.0         | 2.0                     |
|                                   | 2007 | 0.0               | 78.0  | 12.0      | 8.0         | 2.0                     |
|                                   | 2008 | 0.0               | 74.4  | 18.6      | 4.7         | 2.3                     |
|                                   | 2009 | 0.0               | 70.3  | 13.0      | 11.1        | 5.6                     |
|                                   | 2010 | 0.0               | 79.2  | 17.0      | 1.9         | 1.9                     |
|                                   | 2011 | 0.0               | 74.1  | 18.5      | 3.7         | 3.7                     |
|                                   | 2012 | 36.6              | 27.7  | 20.2      | 13.9        | 1.7                     |
|                                   | 2013 | 25.7              | 36.9  | 32.5      | 4.4         | 0.5                     |
| XI. Frontera Sur                  | 2003 | 71.9              | 6.3   | 3.1       | 15.6        | 3.1                     |
|                                   | 2004 | 0.0               | 0.0   | 0.0       | 0.0         | 0.0                     |
|                                   | 2005 | 55.6              | 14.8  | 29.6      | 0.0         | 0.0                     |
|                                   | 2006 | 34.4              | 50.0  | 9.4       | 6.3         | 0.0                     |
|                                   | 2007 | 18.7              | 65.6  | 9.4       | 6.3         | 0.0                     |
|                                   | 2008 | 21.8              | 71.9  | 6.3       | 0.0         | 0.0                     |
|                                   | 2009 | 0.0               | 86.1  | 13.9      | 0.0         | 0.0                     |
|                                   | 2010 | 27.7              | 55.6  | 16.7      | 0.0         | 0.0                     |
|                                   | 2011 | 81.8              | 15.2  | 0.0       | 3.0         | 0.0                     |
|                                   | 2012 | 71.1              | 19.8  | 7.1       | 1.2         | 0.8                     |

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| Región Hidrológico Administrativa | Año                             | Calidad reportada |       |           |             |                         |      |
|-----------------------------------|---------------------------------|-------------------|-------|-----------|-------------|-------------------------|------|
|                                   |                                 | Excelente         | Buena | Aceptable | Contaminada | Fuertemente contaminada |      |
| XI. Frontera Sur                  | 2013                            | 51.1              | 34.8  | 12.5      | 1.6         | 0.0                     |      |
|                                   | 2014                            | 62.0              | 26.0  | 10.4      | 1.2         | 0.4                     |      |
| XII. Península de Yucatán         | 2003                            | 91.7              | 8.3   | 0.0       | 0.0         | 0.0                     |      |
|                                   | 2004                            | 92.9              | 7.1   | 0.0       | 0.0         | 0.0                     |      |
|                                   | 2005                            | 100.0             | 0.0   | 0.0       | 0.0         | 0.0                     |      |
|                                   | 2006                            | 100.0             | 0.0   | 0.0       | 0.0         | 0.0                     |      |
|                                   | 2007                            | 100.0             | 0.0   | 0.0       | 0.0         | 0.0                     |      |
|                                   | 2008                            | 100.0             | 0.0   | 0.0       | 0.0         | 0.0                     |      |
|                                   | 2009                            | 90.0              | 0.0   | 10.0      | 0.0         | 0.0                     |      |
|                                   | 2010                            | 100.0             | 0.0   | 0.0       | 0.0         | 0.0                     |      |
|                                   | 2011                            | 100.0             | 0.0   | 0.0       | 0.0         | 0.0                     |      |
|                                   | 2012                            | 95.5              | 1.5   | 3.0       | 0.0         | 0.0                     |      |
|                                   | 2013                            | 54.7              | 35.8  | 9.5       | 0.0         | 0.0                     |      |
|                                   | 2014                            | 90.6              | 7.5   | 1.9       | 0.0         | 0.0                     |      |
|                                   | XIII. Aguas del Valle de México | 2003              | 4.0   | 4.0       | 20.0        | 40.0                    | 32.0 |
|                                   |                                 | 2004              | 5.3   | 5.3       | 21.1        | 36.8                    | 31.6 |
| 2005                              |                                 | 4.0               | 8.0   | 20.0      | 36.0        | 32.0                    |      |
| 2006                              |                                 | 4.0               | 0.0   | 24.0      | 32.0        | 40.0                    |      |
| 2007                              |                                 | 4.0               | 0.0   | 28.0      | 28.0        | 40.0                    |      |
| 2008                              |                                 | 4.0               | 0.0   | 28.0      | 20.0        | 48.0                    |      |
| 2009                              |                                 | 4.2               | 0.0   | 20.8      | 25.0        | 50.0                    |      |
| 2010                              |                                 | 3.7               | 3.7   | 25.9      | 14.8        | 51.9                    |      |
| 2011                              |                                 | 5.0               | 0.0   | 40.0      | 5.0         | 50.0                    |      |
| 2012                              |                                 | 32.7              | 5.5   | 34.5      | 9.1         | 18.2                    |      |
| 2013                              |                                 | 1.5               | 7.5   | 55.2      | 23.9        | 11.9                    |      |
| 2014                              |                                 | 13.4              | 32.0  | 35.1      | 17.5        | 2.1                     |      |
| Nacional                          |                                 | 2003              | 51.8  | 12.9      | 15.7        | 14.3                    | 5.3  |
|                                   |                                 | 2004              | 41.2  | 21.9      | 21.4        | 10.3                    | 5.3  |
|                                   | 2005                            | 42.0              | 22.0  | 19.0      | 12.0        | 5.0                     |      |
|                                   | 2006                            | 40.4              | 25.3  | 17.6      | 11.3        | 5.4                     |      |
|                                   | 2007                            | 38.2              | 30.2  | 17.6      | 9.4         | 4.6                     |      |
|                                   | 2008                            | 40.6              | 25.3  | 20.5      | 9.5         | 4.1                     |      |
|                                   | 2009                            | 41.0              | 26.8  | 19.7      | 7.9         | 4.6                     |      |
|                                   | 2010                            | 42.3              | 27.5  | 18.9      | 7.5         | 3.8                     |      |
|                                   | 2011                            | 35.0              | 31.1  | 23.1      | 7.8         | 3.0                     |      |
|                                   | 2012                            | 40.7              | 26.2  | 21.3      | 9.6         | 2.2                     |      |
|                                   | 2013                            | 26.2              | 30.4  | 34.3      | 7.5         | 1.6                     |      |
|                                   | 2014                            | 31.4              | 27.1  | 33.6      | 6.0         | 1.8                     |      |

## NOTAS

| Variable   | Notas   |
|--|---|
| Porcentaje de sitios de monitoreo en cuerpos de agua superficiales que miden DBO5, según el nivel reportado de calidad del agua. | DBO5: Demanda Bioquímica de Oxígeno a cinco días. Determina la cantidad de materia orgánica biodegradable. Es un indicativo de la cantidad de materia orgánica presente en los cuerpos de agua, proveniente principalmente de las descargas de las aguas residuales tanto de origen municipal como no municipal. <br> Los valores de DBO5 se expresan en mg/l; de acuerdo con este indicador, los niveles de calidad del agua son los siguientes:<br>Excelente, si DBO5 =3 <br>Buena, si 3 < DBO5 =6 <br>Aceptable, si 6 < DBO5 =30 <br>Contaminada, si 30 < DBO5 =120 <br>Fuertemente contaminada, si DBO5 > 120 |

## FUENTES

Comisión Nacional del Agua, Estadísticas del Agua en México Ediciones 2005-2015. Secretaría del Medio Ambiente y Recursos Naturales, México.

Comisión Nacional del Agua, Sistema Nacional de Información del Agua, consultado en: <http://201.116.60.25/sina/>, 18-07-2016.