

SUMMARY AND DISCUSSION OF RESOURCE ESTIMATES

This section presents a summary of the estimates of oil and gas resources in the Pacific OCS Region that have been developed for this assessment and a discussion of the geographic and geologic distribution of undiscovered resources in the Region. Estimates of undiscovered resources in administrative

planning areas of the Region are presented in appendix E. A discussion of the contribution of undiscovered resources in the Region to the undiscovered resources in the United States OCS is presented in appendix F.

REGIONAL RESULTS

Based on this assessment, the total volume of undiscovered conventionally recoverable oil resources (including crude oil and condensate) in the Pacific OCS Region as of this assessment (i.e., January 1, 1995) is estimated to range from 8.99 to 12.62 Bbbl (low to high estimates) with a mean estimate of 10.71 Bbbl. The total volume of undiscovered conventionally recoverable gas resources (including associated and nonassociated gas) in the Region is estimated to range from 15.21 to 23.19 Tcf with a mean estimate of 18.94 Tcf.

The total volume of undiscovered conventionally recoverable resources in the Region that is estimated to be economically recoverable at economic and technological conditions existing as of this assessment (i.e., the \$18-per-barrel economic scenario) is 5.31 Bbbl of oil and 8.30 Tcf of gas (mean estimates).

Larger volumes of resources are estimated to be economically recoverable at more favorable economic conditions.

Based on previous assessments of discovered resources and this assessment of undiscovered resources, the total resource endowment of the Region is estimated to be 12.77 Bbbl of oil and 22.07 Tcf of gas. This estimated endowment is composed of 2.05 Bbbl and 3.13 Tcf of discovered resources (including 678 MMbbl and 738 Bcf of cumulative production and 1.38 Bbbl and 2.39 Tcf of remaining reserves) and 10.71 Bbbl and 18.94 Tcf of undiscovered conventionally recoverable resources. Undiscovered resources are estimated to compose a major portion (approximately 85 percent on the basis of mean estimates) of the total oil and gas resource endowment of the Region.

GEOGRAPHIC DISTRIBUTION OF RESOURCES

UNDISCOVERED CONVENTIONALLY RECOVERABLE RESOURCES

The undiscovered conventionally recoverable oil and gas resources of the Region are estimated to exist within 46 assessed plays in 13 assessment areas (fig. 10). The low, mean, and high estimates of the resources in each assessment area of the Region are listed in table 48. The distribution of the resources among the assessment areas is illustrated, on the basis of mean estimates, in figures 143 and 144.

Approximately three quarters of the undiscovered conventionally recoverable combined oil-equivalent resources of the Region (76 percent on the basis of mean estimates) are estimated to be oil. Relatively

large volumes of oil resources (greater than 1 Bbbl) are estimated to exist in the Point Arena basin (2.03 Bbbl), Santa Barbara-Ventura basin (1.85 Bbbl), Bodega basin (1.42 Bbbl), and Oceanside-Capistrano basin (1.11 Bbbl).

Approximately one quarter of the undiscovered conventionally recoverable combined oil-equivalent resources of the Region (24 percent on the basis of mean estimates) is estimated to be gas. Relatively large volumes of gas resources (greater than 1 Tcf) are estimated to exist in the Santa Barbara-Ventura basin (4.61 Tcf), Washington-Oregon area (2.30 Tcf), Point Arena basin (2.14 Tcf), Eel River basin (1.61 Tcf), Bodega basin (1.57 Tcf), Oceanside-Capistrano basin (1.30 Tcf), and Cortes-Velero-Long area (1.10 Tcf).

Table 48. Estimates of undiscovered conventionally recoverable oil and gas resources in the Pacific OCS Region as of January 1, 1995, by assessment area. All estimates are risked values. The low, mean, and high estimates correspond to the 95th-percentile, mean, and 5th-percentile values of a probability distribution, respectively. Percentile values are not additive; some total mean values may not equal the sum of the component values due to independent rounding.

Assessment Area	Oil (Bbbl)			Gas (Tcf)			BOE (Bbbl)		
	Low	Mean	High	Low	Mean	High	Low	Mean	High
Pacific Northwest Province									
Washington-Oregon Area	0.14	0.36	0.69	0.95	2.30	4.28	0.32	0.76	1.42
Eel River Basin	0.03	0.05	0.08	1.06	1.61	2.32	0.23	0.34	0.49
<i>Total Province</i>	<i>0.19</i>	<i>0.41</i>	<i>0.75</i>	<i>2.34</i>	<i>3.91</i>	<i>6.03</i>	<i>0.61</i>	<i>1.11</i>	<i>1.79</i>
Central California Province									
Point Arena Basin	1.50	2.03	2.66	1.45	2.14	3.01	1.77	2.41	3.18
Bodega Basin	0.97	1.42	1.98	1.00	1.57	2.30	1.16	1.70	2.37
Año Nuevo Basin	0.49	0.72	1.01	0.49	0.78	1.16	0.58	0.86	1.21
Santa Maria-Partington Basin	0.68	0.78	0.89	0.60	0.74	0.90	0.79	0.91	1.05
<i>Total Province</i>	<i>4.17</i>	<i>4.95</i>	<i>5.82</i>	<i>4.21</i>	<i>5.23</i>	<i>6.39</i>	<i>4.94</i>	<i>5.88</i>	<i>6.93</i>
Santa Barbara-Ventura Basin Province									
Santa Barbara-Ventura Basin	1.74	1.85	1.95	3.84	4.61	5.48	2.43	2.67	2.92
<i>Total Province</i>	<i>1.74</i>	<i>1.85</i>	<i>1.95</i>	<i>3.84</i>	<i>4.61</i>	<i>5.48</i>	<i>2.43</i>	<i>2.67</i>	<i>2.92</i>
Los Angeles Basin Province									
Los Angeles Basin	0.19	0.31	0.49	0.17	0.32	0.53	0.22	0.37	0.58
<i>Total Province</i>	<i>0.19</i>	<i>0.31</i>	<i>0.49</i>	<i>0.17</i>	<i>0.32</i>	<i>0.53</i>	<i>0.22</i>	<i>0.37</i>	<i>0.58</i>
Inner Borderland Province									
Santa Monica-San Pedro Area ¹	0.23	0.68	1.47	0.25	0.77	1.68	0.28	0.82	1.76
Oceanside-Capistrano Basin ¹	0	1.11	2.21	0	1.30	3.17	0	1.34	2.70
<i>Total Province¹</i>	<i>0.87</i>	<i>1.79</i>	<i>3.18</i>	<i>0.79</i>	<i>2.07</i>	<i>4.19</i>	<i>1.04</i>	<i>2.16</i>	<i>3.85</i>
Outer Borderland Province									
Santa Cruz-Santa Rosa Area	0	0.44	0.93	0	0.78	1.85	0	0.58	1.24
San Nicolas Basin	0	0.55	1.18	0	0.91	2.42	0	0.71	1.58
Cortes-Velero-Long Area	0	0.41	1.20	0	1.10	3.49	0	0.61	1.80
<i>Total Province</i>	<i>0.63</i>	<i>1.40</i>	<i>2.56</i>	<i>0.98</i>	<i>2.79</i>	<i>5.89</i>	<i>0.82</i>	<i>1.89</i>	<i>3.56</i>
<i>Total Pacific OCS Region¹</i>	<i>8.99</i>	<i>10.71</i>	<i>12.62</i>	<i>15.21</i>	<i>18.94</i>	<i>23.19</i>	<i>11.82</i>	<i>14.08</i>	<i>16.60</i>

¹ Includes a small area and volume of resources in the State offshore and onshore area adjacent to the Federal offshore area.

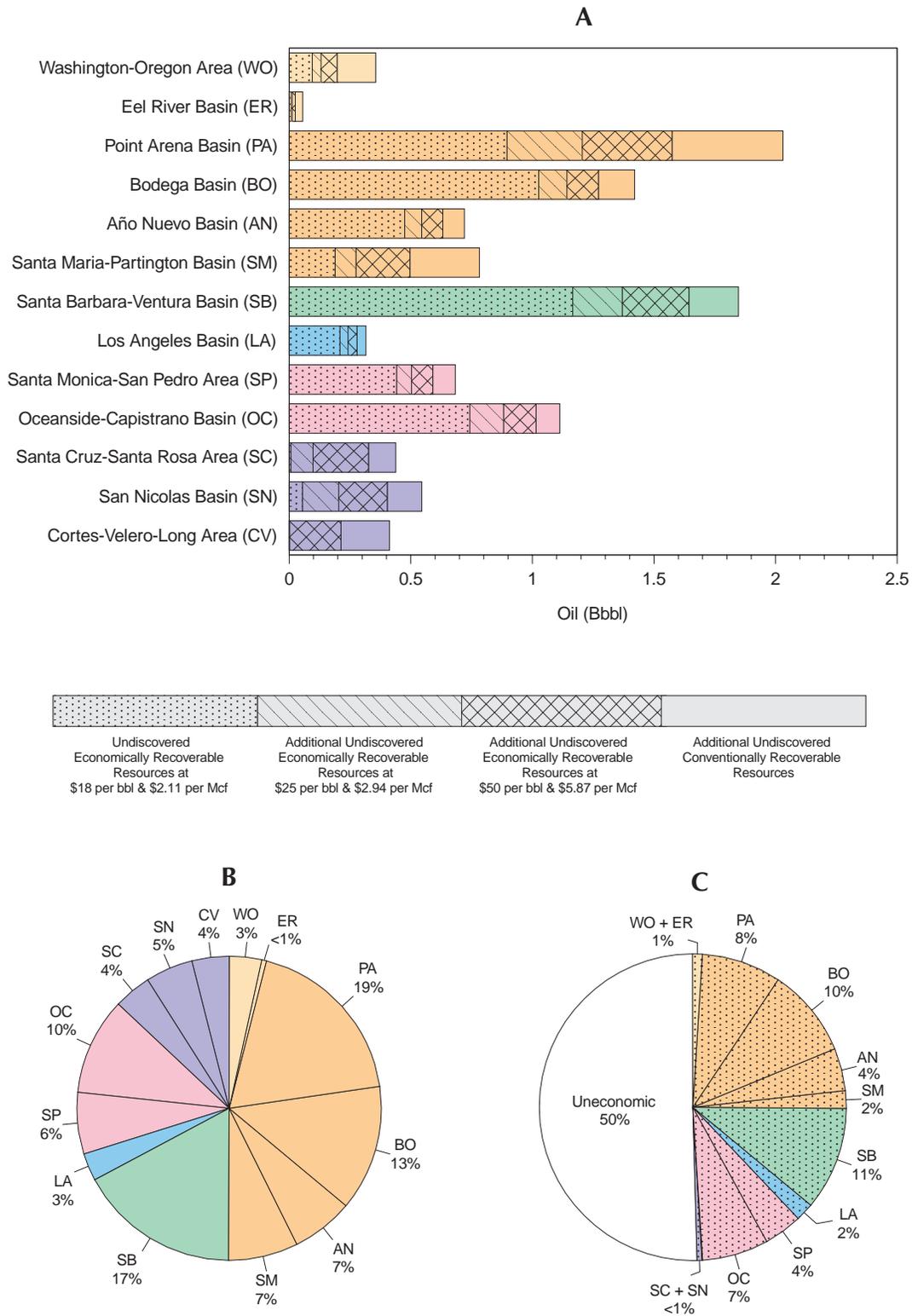


Figure 143. Distribution of undiscovered conventionally recoverable and economically recoverable oil resources in the Pacific OCS Region, by assessment area based on risked mean estimates listed in tables 48 and 49. Bar chart (A) shows incremental volumes of undiscovered economically recoverable oil resources for three economic scenarios and additional undiscovered conventionally recoverable oil resources; the entire bar represents the estimated total volume of undiscovered conventionally recoverable oil resources. Pie charts show proportionate volumes of undiscovered conventionally recoverable oil resources (B) and undiscovered conventionally recoverable oil resources that are economically recoverable versus uneconomic at the \$18-per-bbl scenario (C). The sum of the percentage values in some pie charts may not equal 100 percent due to independent rounding.

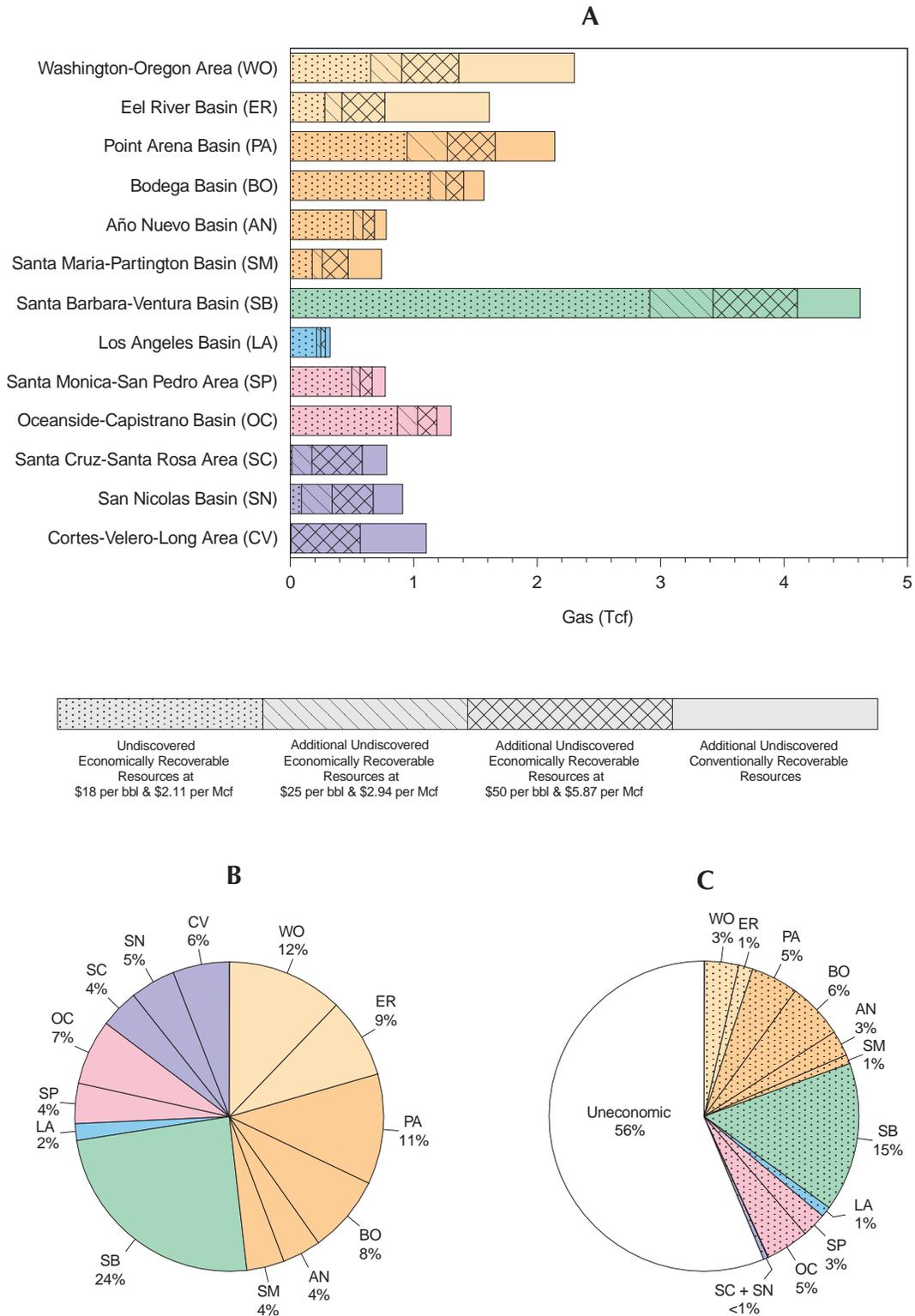


Figure 144. Distribution of undiscovered conventionally recoverable and economically recoverable gas resources in the Pacific OCS Region, by assessment area based on risked mean estimates listed in tables 48 and 49. Bar chart (A) shows incremental volumes of undiscovered economically recoverable gas resources for three economic scenarios and additional undiscovered conventionally recoverable gas resources; the entire bar represents the estimated total volume of undiscovered conventionally recoverable gas resources. Pie charts show proportionate volumes of undiscovered conventionally recoverable gas resources (B) and undiscovered conventionally recoverable gas resources that are economically recoverable versus uneconomic at the \$18-per-bbl scenario (C). The sum of the percentage values in some pie charts may not equal 100 percent due to independent rounding.

Table 49. Estimates of undiscovered economically recoverable oil and gas resources in the Pacific OCS Region as of January 1, 1995 for three economic scenarios, by assessment area. All estimates are risked mean values. The \$18-per-barrel scenario is based on prices of \$18 per bbl of oil and \$2.11 per Mcf of gas; the \$25-per-barrel scenario is based on prices of \$25 per bbl of oil and \$2.94 per Mcf of gas; the \$50-per-barrel scenario is based on prices of \$50 per barrel of oil and \$5.87 per Mcf of gas. Some total values may not equal the sum of the component values due to independent rounding.

Assessment Area	\$18-per-barrel Scenario			\$25-per-barrel Scenario			\$50-per-barrel Scenario		
	Oil (Bbbl)	Gas (Tcf)	BOE (Bbbl)	Oil (Bbbl)	Gas (Tcf)	BOE (Bbbl)	Oil (Bbbl)	Gas (Tcf)	BOE (Bbbl)
Pacific Northwest Province									
Washington-Oregon Area	0.09	0.65	0.21	0.13	0.90	0.29	0.20	1.37	0.44
Eel River Basin	<0.01	0.28	0.06	0.01	0.42	0.09	0.03	0.77	0.16
<i>Total Province</i>	<i>0.10</i>	<i>0.93</i>	<i>0.27</i>	<i>0.14</i>	<i>1.32</i>	<i>0.38</i>	<i>0.22</i>	<i>2.13</i>	<i>0.60</i>
Central California Province									
Point Arena Basin	0.90	0.95	1.06	1.21	1.27	1.43	1.58	1.66	1.87
Bodega Basin	1.03	1.13	1.23	1.14	1.26	1.37	1.27	1.41	1.52
Año Nuevo Basin	0.48	0.51	0.57	0.55	0.59	0.65	0.63	0.68	0.75
Santa Maria-Partington Basin	0.19	0.18	0.22	0.28	0.26	0.32	0.50	0.47	0.58
<i>Total Province</i>	<i>2.59</i>	<i>2.77</i>	<i>3.08</i>	<i>3.17</i>	<i>3.38</i>	<i>3.77</i>	<i>3.98</i>	<i>4.22</i>	<i>4.73</i>
Santa Barbara-Ventura Basin Province									
Santa Barbara-Ventura Basin	1.17	2.91	1.68	1.37	3.43	1.98	1.64	4.11	2.38
<i>Total Province</i>	<i>1.17</i>	<i>2.91</i>	<i>1.68</i>	<i>1.37</i>	<i>3.43</i>	<i>.98</i>	<i>1.64</i>	<i>4.11</i>	<i>2.38</i>
Los Angeles Basin Province									
Los Angeles Basin	0.21	0.21	0.25	0.24	0.25	0.29	0.28	0.29	0.33
<i>Total Province</i>	<i>0.21</i>	<i>0.21</i>	<i>0.25</i>	<i>0.24</i>	<i>0.25</i>	<i>0.29</i>	<i>0.28</i>	<i>0.29</i>	<i>0.33</i>
Inner Borderland Province									
Santa Monica-San Pedro Area ¹	0.44	0.50	0.53	0.50	0.57	0.60	0.59	0.66	0.71
Oceanside-Capistrano Basin ¹	0.74	0.87	0.90	0.88	1.03	1.07	1.02	1.19	1.23
<i>Total Province¹</i>	<i>1.19</i>	<i>1.37</i>	<i>1.43</i>	<i>1.39</i>	<i>1.60</i>	<i>1.67</i>	<i>1.61</i>	<i>1.85</i>	<i>1.94</i>
Outer Borderland Province									
Santa Cruz-Santa Rosa Area	<0.01	0.01	0.01	0.10	0.18	0.13	0.33	0.58	0.43
San Nicolas Basin	0.06	0.09	0.07	0.20	0.34	0.26	0.40	0.67	0.52
Cortes-Velero-Long Area	0	0	0	<0.01	<0.01	<0.01	0.21	0.57	0.31
<i>Total Province</i>	<i>0.06</i>	<i>0.10</i>	<i>0.08</i>	<i>0.30</i>	<i>0.52</i>	<i>0.40</i>	<i>0.94</i>	<i>1.83</i>	<i>1.27</i>
<i>Total Pacific OCS Region¹</i>	<i>5.31</i>	<i>8.30</i>	<i>6.79</i>	<i>6.61</i>	<i>10.49</i>	<i>8.48</i>	<i>8.67</i>	<i>14.42</i>	<i>11.24</i>

¹ Includes a small area and volume of resources in the State offshore and onshore area adjacent to the Federal offshore area.

UNDISCOVERED ECONOMICALLY RECOVERABLE RESOURCES

The undiscovered economically recoverable oil and gas resources of the Region are estimated to exist within 13 assessment areas (fig. 10). Mean estimates of the resources in each assessment area of the Region are listed, for three economic scenarios, in table 49. The distribution of undiscovered economically recoverable oil and gas resources among the assessment areas is illustrated in figures 143 and 144. Resource estimates for the \$18-per-barrel economic scenario (which assumes prices of \$18.00 per bbl of oil and \$2.11 per Mcf of gas) are used for illustrative and comparative purposes in this discussion because the oil price of this scenario closely approximates the market price of oil as of this assessment.

One half of the undiscovered conventionally recoverable oil resources of the Region (50 percent on the basis of mean estimates and the \$18-per-barrel economic scenario) is estimated to be economically recoverable at economic and technological conditions existing as of this assessment. These resources include relatively large volumes of oil (greater than 1 Bbbl) in the Santa Barbara-Ventura basin (1.17 Bbbl) and Bodega basin (1.03 Bbbl). At more favorable economic conditions, larger volumes of undiscovered economically recoverable oil resources are estimated to exist in these and other areas, particularly in the Point Arena and Oceanside-Capistrano basins.

Less than one half of the undiscovered conventionally recoverable gas resources of the Region (44 percent on the basis of mean estimates and the \$18-per-barrel economic scenario) is estimated to be economically recoverable at economic and technological conditions existing as of this assessment. These resources include relatively large volumes of gas (greater than 1 Tcf) in the Santa Barbara-Ventura basin (2.91 Tcf) and Bodega basin (1.13 Tcf). At more favorable economic conditions, larger volumes of undiscovered economically recoverable gas resources are estimated to exist in these and other areas, particularly in the Point Arena basin, Washington-Oregon area, and Oceanside-Capistrano basin.

TOTAL RESOURCE ENDOWMENT

The total resource endowment of the Region is estimated to exist in 13 assessment areas (fig. 10). Estimates of the total resource endowment in each assessment area of the Region are listed in table 50. The distribution of the total endowment of oil and gas resources among the assessment areas is illustrated in figures 145A and 146A.

Approximately three quarters (77 percent) of the total endowment of combined oil-equivalent resources of the Region are estimated to be oil. Relatively large endowments of oil resources (greater than 1 Bbbl) are estimated in the Santa Barbara-Ventura basin (2.99 Bbbl), Point Arena basin (2.03 Bbbl), Santa Maria-Partington basin (1.57 Bbbl), Bodega basin (1.42 Bbbl), and Oceanside-Capistrano basin (1.11 Bbbl).

Approximately one quarter (24 percent) of the total endowment of combined oil-equivalent resources of the Region is estimated to be gas. Relatively large endowments of gas resources (greater than 1 Tcf) are estimated to exist in the Santa Barbara-Ventura basin (7.01 Tcf), Washington-Oregon area (2.30 Tcf), Point Arena basin (2.14 Tcf), Eel River basin (1.61 Tcf), Bodega basin (1.57 Tcf), Oceanside-Capistrano basin (1.30 Tcf), and Cortes-Velero-Long area (1.10 Tcf).

The estimated volume of undiscovered oil and gas resources in the Region is more than five times that of discovered resources (figs. 145B and 146B); however, the relative significance of discovered and undiscovered resources in areas where resources have been discovered varies. Nearly identical volumes of discovered and undiscovered resources are estimated to exist in the Santa Maria-Partington Basin assessment area (figs. 145C and 146C). In the Santa Barbara-Ventura Basin assessment area, the estimated volume of undiscovered resources is nearly twice that of discovered resources (figs. 145D and 146D). The estimated volume of undiscovered resources in the Los Angeles Basin assessment area is nearly three times that of discovered oil resources (fig. 145E) and ten times that of discovered gas resources (fig. 146E).

Table 50. Estimates of the total endowment of oil and gas resources in the Pacific OCS Region, by assessment area. Estimates of discovered resources (including cumulative production and remaining reserves) and undiscovered resources are as of January 1, 1995. Estimates of undiscovered conventionally recoverable resources are risked mean values. Some total values may not equal the sum of the component values due to independent rounding.

Assessment Area	Discovered Resources (Reserves)						Undiscovered Conventionally Recoverable Resources			Total Resource Endowment		
	Cumulative Production			Remaining Reserves			Oil (Bbbl)	Gas (Tcf)	BOE (Bbbl)	Oil (Bbbl)	Gas (Tcf)	BOE (Bbbl)
	Oil (Bbbl)	Gas (Tcf)	BOE (Bbbl)	Oil (Bbbl)	Gas (Tcf)	BOE (Bbbl)						
Pacific Northwest Province												
Washington-Oregon Area	0	0	0	0	0	0	0.36	2.30	0.76	0.36	2.30	0.77
Eel River Basin	0	0	0	0	0	0	0.05	1.61	0.34	0.06	1.61	0.34
<i>Total Province</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0.41</i>	<i>3.91</i>	<i>1.11</i>	<i>0.41</i>	<i>3.91</i>	<i>1.11</i>
Central California Province												
Point Arena Basin	0	0	0	0	0	0	2.03	2.14	2.41	2.03	2.14	2.41
Bodega Basin	0	0	0	0	0	0	1.42	1.57	1.70	1.42	1.57	1.70
Año Nuevo Basin	0	0	0	0	0	0	0.72	0.78	0.86	0.72	0.78	0.86
Santa Maria-Partington Basin	0.12	0.04	0.13	0.67	0.66	0.78	0.78	0.74	0.91	1.57	1.44	1.82
<i>Total Province</i>	<i>0.12</i>	<i>0.04</i>	<i>0.13</i>	<i>0.67</i>	<i>0.66</i>	<i>0.78</i>	<i>4.95</i>	<i>5.23</i>	<i>5.88</i>	<i>5.74</i>	<i>5.93</i>	<i>6.79</i>
Santa Barbara-Ventura Basin Province												
Santa Barbara-Ventura Basin	0.49	0.67	0.61	0.65	1.72	0.96	1.85	4.61	2.67	2.99	7.01	4.24
<i>Total Province</i>	<i>0.49</i>	<i>0.67</i>	<i>0.61</i>	<i>0.65</i>	<i>1.72</i>	<i>0.96</i>	<i>1.85</i>	<i>4.61</i>	<i>2.67</i>	<i>2.99</i>	<i>7.01</i>	<i>4.24</i>
Los Angeles Basin Province												
Los Angeles Basin	0.07	0.02	0.07	0.06	0.01	0.06	0.31	0.32	0.37	0.44	0.36	0.50
<i>Total Province</i>	<i>0.07</i>	<i>0.02</i>	<i>0.07</i>	<i>0.06</i>	<i>0.01</i>	<i>0.06</i>	<i>0.31</i>	<i>0.32</i>	<i>0.37</i>	<i>0.44</i>	<i>0.36</i>	<i>0.50</i>
Inner Borderland Province												
Santa Monica-San Pedro Area ¹	0	0	0	0	0	0	0.68	0.77	0.82	0.68	0.77	0.82
Oceanside-Capistrano Basin ¹	<0.01	<0.01	<0.01	negligible			1.11	1.30	1.34	1.11	1.30	1.34
<i>Total Province¹</i>	<i><0.01</i>	<i><0.01</i>	<i><0.01</i>	<i>negligible</i>			<i>1.79</i>	<i>2.07</i>	<i>2.16</i>	<i>1.79</i>	<i>2.07</i>	<i>2.16</i>
Outer Borderland Province												
Santa Cruz-Santa Rosa Area	0	0	0	0	0	0	0.44	0.78	0.58	0.44	0.78	0.58
San Nicolas Basin	0	0	0	0	0	0	0.55	0.91	0.71	0.55	0.91	0.71
Cortes-Velero-Long Area	0	0	0	0	0	0	0.41	1.10	0.61	0.41	1.10	0.61
<i>Total Province</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>1.40</i>	<i>2.79</i>	<i>1.89</i>	<i>1.40</i>	<i>2.79</i>	<i>1.89</i>
<i>Total Pacific OCS Region¹</i>	<i>0.68</i>	<i>0.74</i>	<i>0.81</i>	<i>1.38</i>	<i>2.39</i>	<i>1.80</i>	<i>10.71</i>	<i>18.94</i>	<i>14.08</i>	<i>12.77</i>	<i>22.07</i>	<i>16.69</i>

¹ Includes a small area and volume of resources in the State offshore and onshore area adjacent to the Federal offshore area.

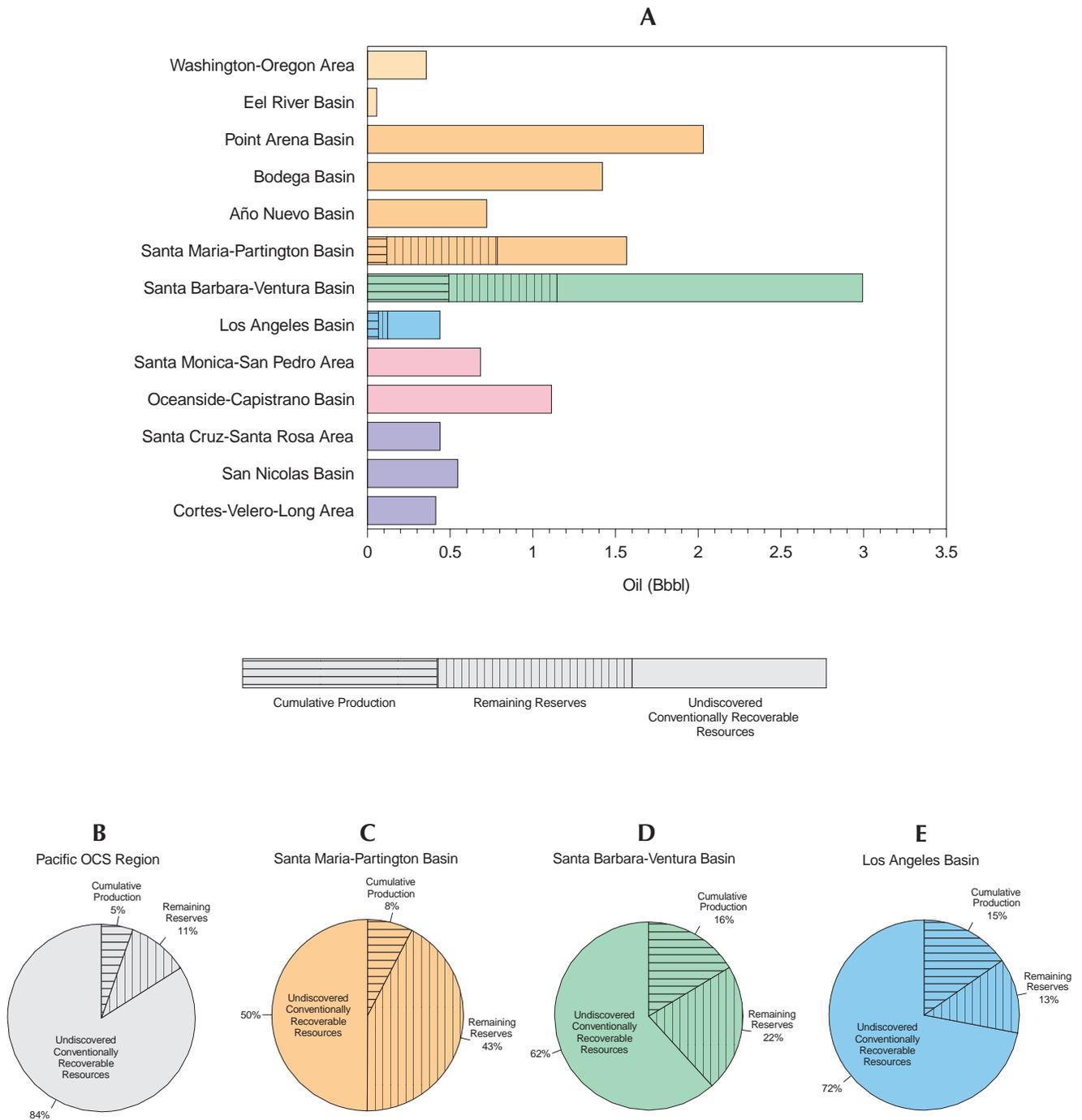


Figure 145. Distribution of the total endowment of oil resources in the Pacific OCS Region, by assessment area based on estimates listed in table 50. Bar chart (A) shows incremental volumes of discovered oil resources (including cumulative production and remaining reserves) and undiscovered conventionally recoverable oil resources; the entire bar represents the estimated total endowment of oil resources. Pie charts show proportionate volumes of discovered oil resources and undiscovered oil resources in the Pacific OCS Region (B), Santa Maria-Partington Basin assessment area (C), Santa Barbara-Ventura Basin assessment area (D), and Los Angeles Basin assessment area (E). The sum of the percentage values in some pie charts may not equal 100 percent due to independent rounding.

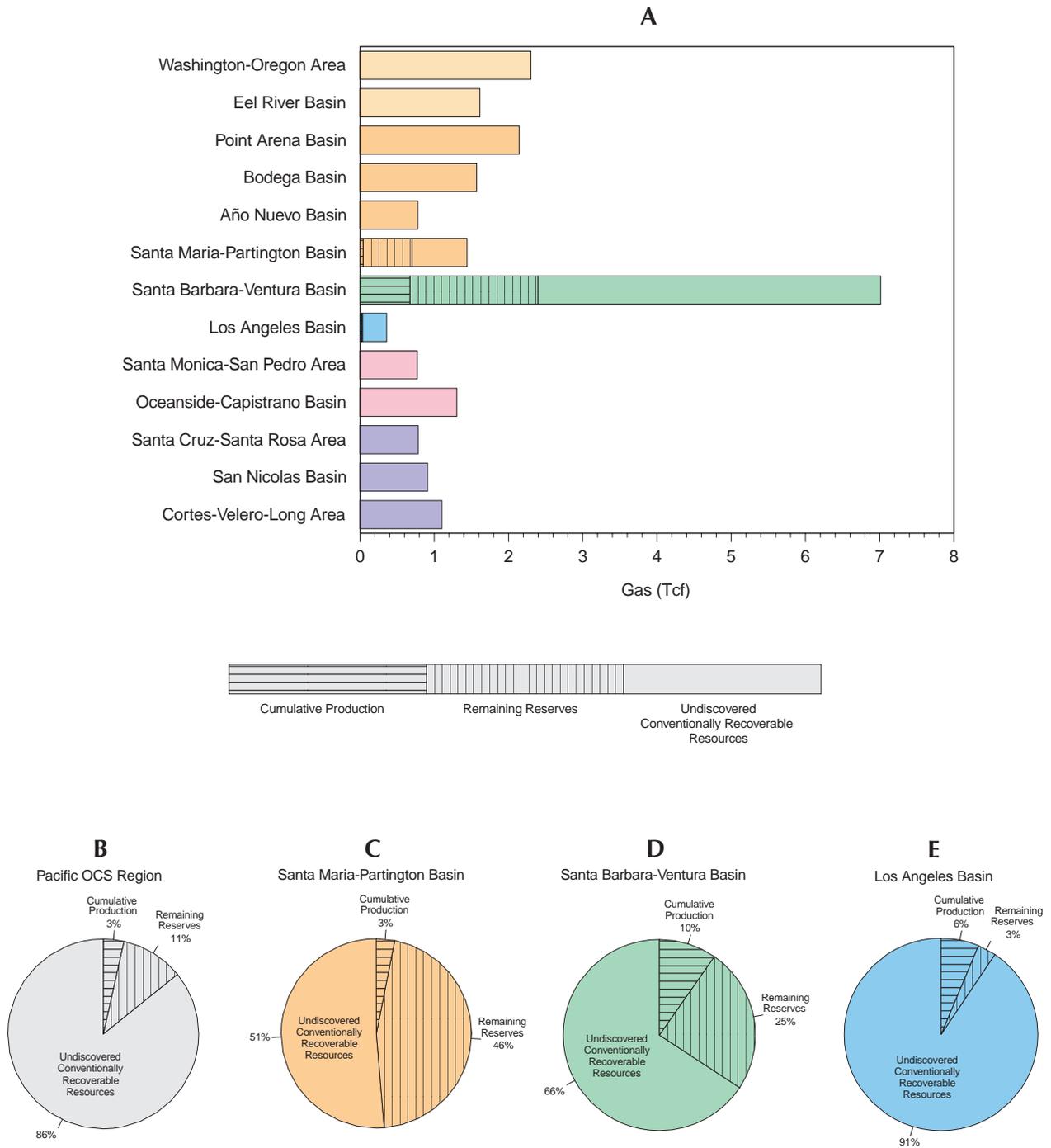


Figure 146. Distribution of the total endowment of gas resources in the Pacific OCS Region, by assessment area based on estimates listed in table 50. Bar chart (A) shows incremental volumes of discovered gas resources (including cumulative production and remaining reserves) and undiscovered conventionally recoverable gas resources; the entire bar represents the estimated total endowment of gas resources. Pie charts show proportionate volumes of discovered gas resources and undiscovered gas resources in the Pacific OCS Region (B), Santa Maria-Partington Basin assessment area (C), Santa Barbara-Ventura Basin assessment area (D), and Los Angeles Basin assessment area (E). The sum of the percentage values in some pie charts may not equal 100 percent due to independent rounding.

GEOLOGIC DISTRIBUTION OF RESOURCES

DISTRIBUTION OF RESOURCES BY EXPLORATION AND DISCOVERY STATUS OF PLAYS

The 46 assessed plays in the Pacific OCS Region consist of 9 established plays, 17 frontier plays, and 20 conceptual plays (see *Introduction* section and table 1). Mean estimates of the undiscovered conventionally recoverable oil and gas resources in each play class are listed in table 51 and illustrated in figure 147.

Approximately three quarters of the undiscovered conventionally recoverable oil and gas resources in the Region are estimated to exist in frontier and conceptual plays where hydrocarbon accumulations have not yet been discovered. More than one quarter of the undiscovered conventionally recoverable oil and gas resources in the Region is estimated to exist in established plays where hydrocarbon accumulations have been discovered.

DISTRIBUTION OF RESOURCES BY HYDROCARBON TYPE OF PLAYS

The 46 assessed plays consist of 36 oil plays and 10 mixed plays; no gas plays were defined (see *Introduction* section and table 1). Mean estimates of the undiscovered conventionally recoverable oil and gas resources in each play class are listed in table 52 and illustrated in figure 148.

The majority of the undiscovered conventionally recoverable oil and gas resources in the Region are estimated to exist in oil plays. More than one third of the undiscovered conventionally recoverable gas resources (some of which is nonassociated gas) and a small volume of undiscovered conventionally recoverable oil resources is estimated to exist in mixed plays.

DISTRIBUTION OF RESOURCES BY RESERVOIR ROCKS OF PLAYS

The 46 assessed plays consist of 25 plays having Neogene clastic reservoir rocks, 9 plays having Neogene fractured siliceous reservoir rocks, and 12 plays having Paleogene-Cretaceous reservoir rocks; no plays having melange reservoir rocks were assessed (see *Introduction* section and table 1). Mean estimates of the undiscovered conventionally recoverable oil and gas resources in each play class are listed in table 53 and illustrated in figure 149.

Although only 9 of the 46 assessed plays have Neogene fractured siliceous reservoir rocks (i.e., Monterey Formation or correlative rocks), those plays are estimated to contain more than one half of the undiscovered conventionally recoverable oil resources and one third of the undiscovered conventionally recoverable gas resources in the Region. The 25 assessed plays having Neogene clastic reservoir rocks are estimated to contain nearly one third of the undiscovered conventionally recoverable oil resources and nearly one half of the undiscovered conventionally recoverable gas resources in the Region. The 12 assessed plays having Paleogene-Cretaceous reservoir rocks are estimated to contain relatively small volumes of undiscovered conventionally recoverable oil and gas resources.

Table 51. Estimates of undiscovered conventionally recoverable oil and gas resources in the Pacific OCS Region as of January 1, 1995, by exploration and discovery status of plays. All estimates are risked mean values. Some total values may not equal the sum of the component values due to independent rounding.

Play Class Based on Exploration & Discovery Status	Number of Plays		Oil (Bbbl)	Gas (Tcf)	BOE (Bbbl)
	Defined	Assessed			
Established <i>plays in which hydrocarbon accumulations have been discovered</i>	10	9	2.83	6.20	3.93
Frontier <i>plays in which hydrocarbon accumulations have not been discovered, but in which hydrocarbons have been detected</i>	18	17	4.84	7.28	6.13
Conceptual <i>plays in which hydrocarbons have not been detected, but for which data suggest that hydrocarbon accumulations may exist</i>	22	20	3.04	5.47	4.02
Total	50	46	10.71	18.94	14.08

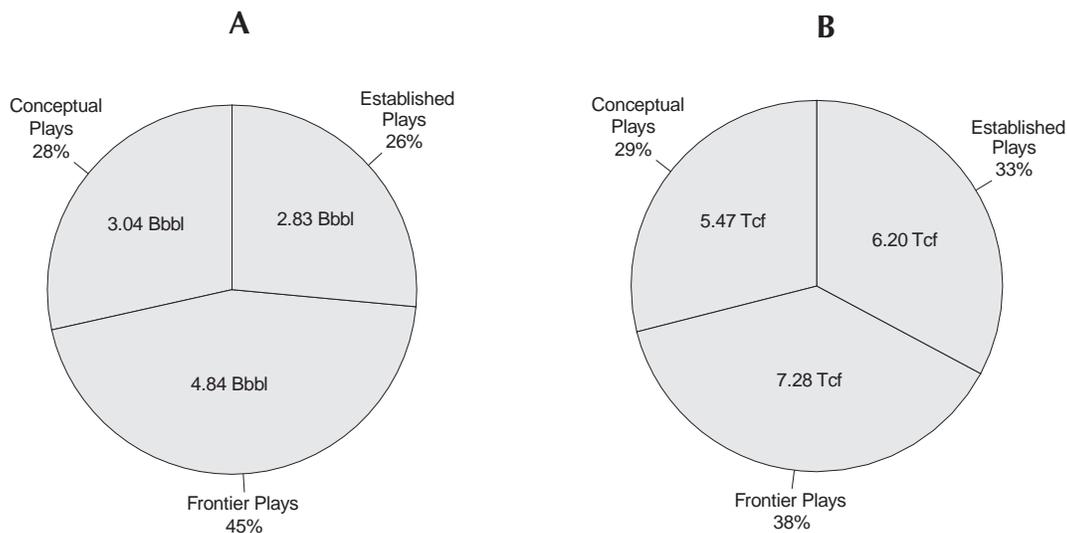


Figure 147. Distribution of undiscovered conventionally recoverable oil (A) and gas (B) resources in the Pacific OCS Region, by exploration and discovery status of plays based on estimates listed in table 51. The sum of the percentage values in some pie charts may not equal 100 percent due to independent rounding.

Table 52. Estimates of undiscovered conventionally recoverable oil and gas resources in the Pacific OCS Region as of January 1, 1995, by predominant hydrocarbon type of plays. All estimates are risked mean values. Some total values may not equal the sum of the component values due to independent rounding.

Play Class Based on Predominant Hydrocarbon Type	Number of Plays		Oil (Bbbl)	Gas (Tcf)	BOE (Bbbl)
	Defined	Assessed			
Oil <i>plays that contain predominantly crude oil and associated gas</i>	39	36	9.60	11.87	11.71
Gas <i>plays that contain predominantly nonassociated gas and may contain condensate</i>	0	0	N/A	N/A	N/A
Mixed <i>plays that contain crude oil, associated gas, and nonassociated gas and may contain condensate</i>	11	10	1.11	7.07	2.37
Total	50	46	10.71	18.94	14.08

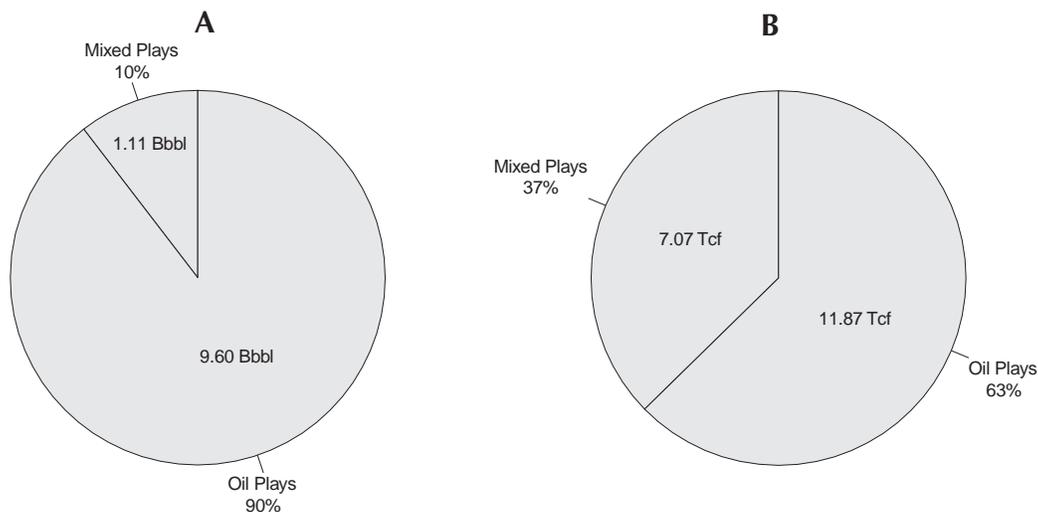


Figure 148. Distribution of undiscovered conventionally recoverable oil (A) and gas (B) resources in the Pacific OCS Region, by predominant hydrocarbon type of plays based on estimates listed in table 52.

Table 53. Estimates of undiscovered conventionally recoverable oil and gas resources in the Pacific OCS Region as of January 1, 1995, by reservoir rock type of plays. All estimates are risked mean values. Some total values may not equal the sum of the component values due to independent rounding.

Play Class Based on Reservoir Rock Type	Number of Plays		Oil (Bbbl)	Gas (Tcf)	BOE (Bbbl)
	Defined	Assessed			
Neogene Clastic <i>plays having reservoir rocks that consist of Miocene and/or Pliocene sandstone, siltstone, shale, and/or breccia</i>	26	25	3.46	8.65	5.00
Neogene Fractured Siliceous <i>plays having reservoir rocks that consist of Miocene fractured chert, siliceous shale, porcelanite, dolomite, and/or limestone</i>	9	9	5.96	6.32	7.08
Paleogene-Cretaceous Clastic <i>plays having reservoir rocks that consist of Cretaceous through Oligocene sandstone, siltstone, and/or shale</i>	13	12	1.30	3.96	2.00
Melange <i>plays having reservoir rocks that consist of sandstone within Cretaceous through Miocene melange</i>	2	0	N/A	N/A	N/A
<i>Total</i>	<i>50</i>	<i>46</i>	<i>10.71</i>	<i>18.94</i>	<i>14.08</i>

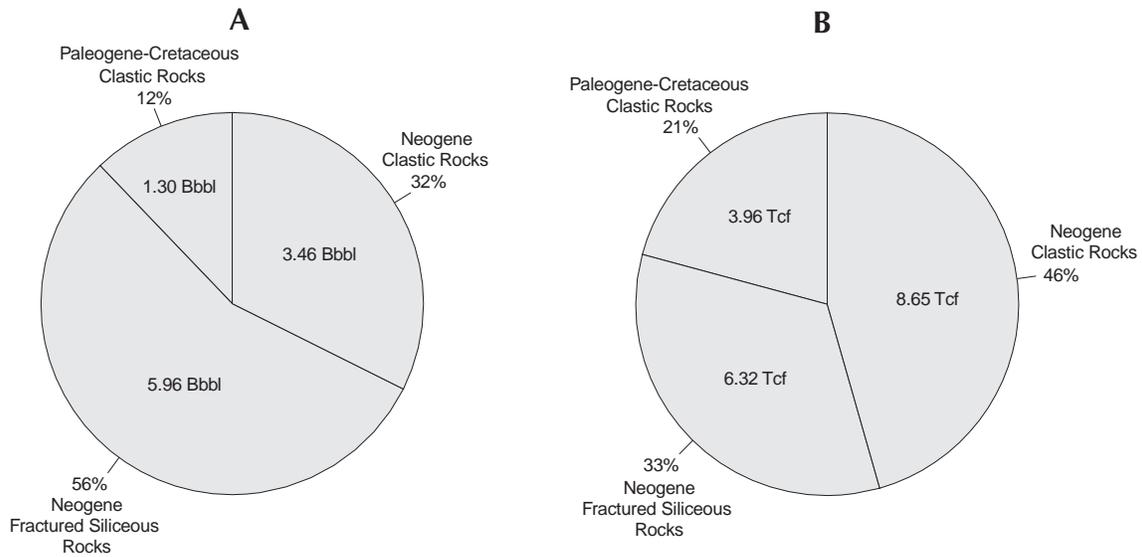


Figure 149. Distribution of undiscovered conventionally recoverable oil (A) and gas (B) resources in the Pacific OCS Region, by reservoir rocks of plays based on estimates listed in table 53.