FATAL SUBMARINE ACCIDENTS; A BIBLIOGRAPHY, 1900-1965

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This bibliography is an outgrowth of a larger study on public reaction to disasters. During the course of that research, it became evident that an adequate bibliography of submarine disasters did not exist. For example, the citations prepared by the Committee on Undersea Warfare** are incomplete, and the list of accidents given by Lockwood and Adamson*** does not contain individual references. It therefore appears that the present compilation may be useful to the naval historian.

Wartime fatalities are included here, except for those which were caused by enemy action or the existence of a state of war. For example, both the Tang and the Tullibee accidents are listed because that kind of disaster (destruction by their own torpedos) could have occurred during exercises as well as during wartime. But the case of the Dorado, which was probably sunk by a friendly patrol plane, is not cited, nor is the "K-Disaster," in which the British submarines K-4, K-14, K-17, and K-22 were lost by collision in the Firth of Forth during World War

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**Committee on Undersea Warfare, Bibliography of the Submarine; 1557-1953, National Academy of Sciences, National Research Council, Report 307, March 1954.

***Lockwood, C. A., and Adamson, H. C. Hell at 50 Fathoms. Philadelphia, Chilton, 1962.

I. These accidents would probably not have occurred if wartime conditions had not prevailed. And there is some doubt as to whether some postwar accidents, such as collisions with uncharted mines, should not have been excluded.

It should be understood, however, that since official files were not consulted, the facts concerning the accidents may not necessarily be correct. This is particularly true with respect to the early cases, where it has been impossible to check the original sources. The casualty figures cited after the description of each accident are taken from the first reference which is cited. If other sources give a different value, this number is noted along with the reference.

Even though the following list may contain inaccuracies, it is of interest to identify the principal causes of fatal accidents. The data are presented in Table 1 for three broad periods of submarine operations: pre-World War I, intermediate, and post-World War II. In the first part of Table 1, the percentage of fatal accidents is given on the basis of the number of submarines which suffered fatalities due to collision, foundering, fire, or miscellaneous causes. It can be seen that collision, foundering, and fire are equally important causes. Fatalities due to fire decreased after the introduction of the diesel engine, but increased again after the second World War. The likelihood of fatalities due to collision has decreased since the war, because of the introduction of better navigational aids.

If the percentage of fatal accidents is based on the number of fatalities rather than per submarine, collision and foundering are dominant causes. (The 1946-1965 data are, however, heavily weighted by the loss of 129 men on the Thresher due to foundering). The high proportion of "miscellaneous" deaths in 1918-1946 resulted from several torpedo accidents and also from cases where reasons for the loss of the boat were undetermined.

Submarine Accidents Involving Fatalities
(All Nations, 1900-1965)

The following list is arranged chronologically. The submarine is identified by name, nation, and by hull number when pertinent. A brief

Table 1

PRINCIPAL CAUSES OF FATAL SUBMARINE ACCIDENTS

Percent of Fatalities Based on Number of Submarines		1900-1918	1919-1946	1947-1965
Cause:	Collision	31	37	13
	Foundering	26	27	27
	Fire: gasoline	23	0	0
	H_2	14	8	7
	Other	0	8	33
	Miscellaneous	6	20	20
Percent of Fatalities Based on Number of Personnel Lost				
Cause:	Collision	39	40	35
	Foundering	35	29	60
	Fire: gasoline	6	0	0
	H_2	7	2	1
	Other	0	1	3
	Miscellaneous	13	28	1

description of the accident is given, along with the number of fatalities.

This bibliography is partially annotated because in some instances there was disagreement among sources as to the number of casualities, the spelling of names, and even the existence of the accident! In these instances, corrections and comments are noted after the secondary references. Generally, the first reference cited is considered to contain the most accurate data.

When news magazines are cited, we refer to Time, although a duplicate entry might also be found in Newsweek. Newspapers are not cited unless they are the sole source.

Articles referring to salvage operations have not been included.

1902

Grampus (SS 4) (US). Gasoline fire alongside, 1 dead.

1. Lockwood and Adamson, op. cit., p. 31. This is probably the wrong date. See 1908 September 18.

1904 April 19

A-1 (Great Britain). Rammed SS Berwick Castle during dummy attack, 11 dead.

1. Shelford, W. O. Subsunk. London, Harrap, 1960. pp. 24-25.
2. Cross, Wilbur. Challengers of the Deep. New York, Sloane, 1959. p. 83.
3. Lockwood and Adamson, op. cit., p. 262.

1904 June 20

Delfin (Russia). Foundered in heavy wash, 26 dead.

1. Literary Digest, v. 50, 10 April 1915, p. 792.*
2. Lockwood and Adamson, op. cit., p. 262 (23 dead, Dolphin).

1905 February 16

A-5 (Great Britain). Gasoline explosion while moored, 6 dead.

1. Lockwood and Adamson, op. cit., p. 262.
2. U.S. Nav. Inst. Proc., v. 31, 1905, p. 216. (Hereafter abbreviated as USNIP).
3. J. Am. Soc. Nav. Eng., February 1905, p. 215.
4. Ibid., May 1905, p. 555.
5. New York Herald, 27 March 1915 (4 dead).**

1905

A-8 (Great Britain). Gasoline explosion, 15 dead.

1. Lockwood and Adamson, op. cit., p. 262. We have not been able to find any other reference to this accident. It was perhaps confused with the following citation.

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*This reference contains a list of submarine disasters which was released by the Navy Department after the F-4 disaster in 1915. It is cited only when there is disagreement with other sources.

**This reference contains a list which was published after the F-4 disaster in 1915. The source of information is unknown, and it does not appear accurate when compared to the Literary Digest list.

1905 June 8

A-8 (Great Britain). Sank, open hatch, followed by explosion, 14 dead.

1. Literary Digest, v. 50, 10 April 1915, p. 792.
2. Lockwood and Adamson, op. cit., p. 262 (15 dead).
3. J. Am. Soc. Nav. Eng., "Accident to British Submarine A-8," August 1905.
4. USNIP, v. 31, 1905, p. 736.
5. Engineer, v. 99, 23 June 1905, p. 624, pp. 627-628.

1905 July 6

Farfadet (France). Sank, leaking conning tower hatch, 14 dead.

1. Lockwood and Adamson, op. cit., p. 263.
2. J. Am. Soc. Nav. Eng., August 1905, p. 900.
3. USNIP, v. 31, 1905, p. 705.
4. New York Herald, 27 March 1915 (12 dead).
5. Shelford, op. cit., p. 25.
6. "Société des anciens élèves des écoles nationales d'arts et métiers," Bull. Technologique, v. 1, February 1906, pp. 150-160.

1906 October 16

Lutin (France). Sank due to structural weakness, 13 dead.

1. Literary Digest, v. 50, 10 April 1915, p. 792.
2. Lockwood and Adamson, op. cit., p. 264 (14 dead).
3. Cross, op. cit., p. 60.

1907 June 13

C-8 (Great Britain). Gasoline explosion, one dead.

1. Lockwood and Adamson, op. cit., p. 264.

1908 September 18

Grampus (SS-4) (US). Gasoline explosion while moored to barge, 1 dead.

1. Lockwood and Adamson, op. cit., p. 265.

1909

Dragon (Russia). Gasoline explosion, 17 dead.

1. Lockwood and Adamson, op. cit., p. 265.
2. New York Herald, 27 March 1915 (1 dead). This accident, if 17 were actually killed, should be classified as a major disaster. It is not, however, cited in the Literary Digest list.

1909 April 16

Foca (Italy). Explosion while charging batteries, 13 dead.

1. Literary Digest, v. 50, 10 April 1915, p. 792.
2. Lockwood and Adamson, op. cit., p. 265 (14 dead).
3. Marine Review, "Explosion on Italian Submarine Foca," June 1909.
4. New York Herald, 27 March 1915 (8 dead).

1909 June 12

Kambala (Russia). Rammed by battleship Retislav, 20 dead.

1. USNIP, v. 35, 1909, p. 977.
2. Lockwood and Adamson, op. cit., p. 265.

1909 July 14

C-11 (Great Britain). Sank after collision with SS Eddystone, 13 dead.

1. Literary Digest, v. 50, 10 April 1915, p. 792.
2. Lockwood and Adamson, op. cit., p. 266 (SS Eddistone).
3. USNIP, v. 35, 1909, p. 1287.
4. Shelford, op. cit., p. 31 (16 dead).

1910 April 16

No. 6 (Japan). Foundered, open vent or valve, 11 dead.

1. Lockwood and Adamson, op. cit., p. 266.
2. Literary Digest, "Voices From the Depths," 8 May 1915.
3. New York Herald, 27 March 1915 (14 dead).

1910 May 26

Pluviose (France). Rammed by SS Pas de Calais, 26 dead.

1. Literary Digest, v. 50, 10 April 1915, p. 792.
2. Lockwood and Adamson, op. cit., p. 266 (Pluvios, 25 dead).
3. New York Herald, 27 March 1915 (27 dead).

4. Revista General de Marina, v. 67, July 1910, pp. 173-175.
5. Moniteur de la Flotte, v. 57, 4 June 1910, pp. 3-4.
6. Ibid., 11 June 1910, pp. 5-6.

1910 December 16

C-8 (Great Britain). Collided with tender Harwich, 5 dead.

1. Lockwood and Adamson, op. cit., p. 266. This accident is not cited in other sources.

1911 January 17

U-3 (Germany). Foundered in shallow water; 27 escaped via torpedo tube, 3 dead.

1. Lockwood and Adamson, op. cit., p. 266.
2. USNIP, v. 38, 1912, p. 757.
3. Schiffbau, v. 12, 25 January 1911, p. 261.
4. Shelford, op. cit., pp. 32-34.
5. New York Herald, 27 March 1915 (0 dead).

1912 February 2

A-3 (Great Britain). Rammed by HMS Hazard while submerged, 14 dead.

1. Lockwood and Adamson, op. cit., p. 267.
2. Illus. Lond. News, v. 140, 10 February 1912, pp. 196-197.
3. USNIP, v. 38, 1912, p. 327.
4. Sphere, v. 40, 10 February 1912, p. 168.
5. Ibid., 24 February 1912, pp. 222-223.
6. Schiffbau, v. 13, 14 February 1912, p. 363.
7. Ibid., 13 March 1912, pp. 448-449.
8. Ibid., 27 March 1912, p. 488.
9. Cross, op. cit., p. 83.

1912 June 8

Vendémiaire (France). Rammed while surfacing by battleship St. Louis, 24 dead.

1. Lockwood and Adamson, op. cit., p. 267.
2. USNIP, v. 38, 1912, p. 1114.
3. Schiffbau, v. 13, 26 June 1912, p. 736.
4. New York Herald, 27 March 1915 (23 dead).

1912 October 4

B-2 (Great Britain). Rammed while surfaced at night by SS Amerika, 15 dead.

1. Lockwood and Adamson, op. cit., p. 267.
2. USNIP, v. 38, 1912, p. 1652.
3. Cross, op. cit., p. 83.

1913 June 8

E-5 (Great Britain). Explosion in engine room, 3 dead.

1. Literary Digest, v. 50, 10 April 1915, p. 792.
2. Lockwood and Adamson, op. cit., p. 268 (1913 June 7, B-5, 5 dead).
3. New York Herald, 27 March 1915 (1913, E-5, 0 dead).

1914

No. 5 (Holland). Sank at quay, 1 dead.

1. Lockwood and Adamson, op. cit., p. 268.
2. USNIP, v. 40, 1914, p. 1320.

1914 January 16

A-7 (Great Britain). Failed to surface, unknown cause, 11 dead.

1. Lockwood and Adamson, op. cit., p. 268.
2. USNIP, v. 40, 1914, p. 524.

1914 July 8

Calypso (France). Sank after collision with Circe, 3 dead.

1. Lockwood and Adamson, op. cit., p. 268.
2. USNIP, v. 40, 1914, p. 1181, p. 1486 (collision with Mousqueton).
3. New York Herald, 27 March 1915 (0 dead).
4. J. de la Marine: Le Yacht, v. 37, 18 July 1914, p. 451.

1914 September 14

E-1 (Australia). Failed to return after dive, 37 dead.

1. Lockwood and Adamson, op. cit., p. 269. This accident is not cited in other sources.

1915 January 15

E-2 (SS 25) (US). Battery gas explosion at yard, 5 dead.

1. Lockwood and Adamson, op. cit., pp. 257-258, p. 269.
2. Outlook, v. 112, 26 January 1916, pp. 163-164.
3. Army and Navy J., v. 53, 19 February 1916, pp. 786-787.
4. USNIP, v. 42, 1916, p. 612.
5. Ibid., v. 43, 1917, p. 160.

1915 March 25

F-4 (SS 23) (US). Foundered after running dive, 21 dead.

1. Lockwood and Adamson, op. cit., pp. 1-12, 35-62.
2. Cross, op. cit., p. 84.
3. USNIP, v. 41, 1915, pp. 1650-1651, p. 1833, pp. 2059-2064.
4. Scientific American, v. 112, 10 April 1915, p. 336 (editorial).
5. Literary Digest, v. 50, 10 April 1915, p. 792, pp. 831-834.
6. Army and Navy J., v. 53, 30 October 1915, p. 276.
7. Outlook, v. 111, 8 September 1915, p. 57 (editorial).
8. Navy Times, 15 April 1959, p. 22.
9. Naval History Division, Navy Department. Dictionary of American Naval Fighting Ships, v. 2. Washington, D.C., U.S. Government Printing Office, 1963. p. 382. (Hereafter abbreviated as DANFS).

1916 January 9

E-30 (Great Britain). Explosion in battery room, 4 dead.

1. Lockwood and Adamson, op. cit., p. 269.

1916 September 1

Gustave Zede (France). Battery gas explosion, 4 dead.

1. Lockwood and Adamson, op. cit., p. 269.

1916 October 10

Dykkeren (Denmark). Sank after collision with merchant ship, 1 dead.

1. Lockwood and Adamson, op. cit., p. 269.
2. USNIP, v. 42, 1916, p. 2025.
3. Shelford, op. cit., pp. 45-47.

1916 November 9

No. 19 (Japan). Gasoline explosion, 2 dead.

1. Lockwood and Adamson, op. cit., p. 269.

1917 January 29

K-13 (Great Britain). Foundered during acceptance trials, 32 dead.

1. Shelford, op. cit., pp. 42-45.
2. Cross, op. cit., p. 83.
3. The Navy, July 1932, pp. 199-203.
4. Lockwood and Adamson, op. cit., p. 270 (31 dead).

1917 July 24

A-7 (SS 8) (US). Gasoline vapor explosion, 7 dead.

1. DANFS, v. 1, p. 2.
2. USNIP, v. 43, 1917, p. 2125 (5 dead).
3. Lockwood and Adamson, op. cit., p. 270 (8 dead).

1917 November 30

A-2 (SS 3) (US). Gasoline explosion, 1 dead.

1. Lockwood and Adamson, op. cit., pp. 24-26.

1917 December 17

F-1 (SS 20) (US). Rammed and sunk by F-3 in fog, 19 dead.

1. DANFS, v. 2, p. 381.
2. Lockwood and Adamson, op. cit., pp. 119-120.
3. Navy Times, 15 April 1959, p. 22.

1918 October 5

O-5 (SS 66) (US). Battery gas explosion, 2 dead.

1. Lockwood and Adamson, op. cit., p. 271.
2. Cross, op. cit., p. 85 (4 dead).
3. USNIP, v. 44, 1918, p. 2671 (U-5).

1918 November 22

G-11 (Great Britain). Wrecked off Harwick. Casualty list not given.

1. The Navy, March 1932, pp. 67-70.

1919 July 30

G-2 (SS 27) (US). Accidental sinking, 3 dead.

1. Lockwood and Adamson, op. cit., p. 271.
2. Navy Times, 15 April 1959, p. 22.

1920 April 12

H-1 (SS 28) (US). Ran aground, 4 drowned while swimming ashore.

1. Lockwood and Adamson, op. cit., p. 271.
2. Navy Times, 15 April 1959, p. 22 (1920 March).

1921 January 1

K-5 (Great Britain). Failed to surface after dive. Suspected cause: air intakes failed to close, 57 dead.

1. The Navy, July 1932, pp. 199-203.
2. Lockwood and Adamson, op. cit., p. 271.
3. Cross, op. cit., p. 83.

1921 September 26

R-6 (SS 83) (US). Accidental flooding while moored, 2 dead.

1. Lockwood and Adamson, op. cit., p. 271.
2. Popular Mechanics, v. 37, February 1922, pp. 194-195.

1921 November 9

K-4 (Holland). Explosion in battery storage compartment, 2 dead.

1. Lockwood and Adamson, op. cit., p. 272.
2. USNIP, v. 48, 1922, p. 144.

1922 April 23

H-42 (Great Britain). Rammed by HMS Versatile, 28 dead.

1. Lockwood and Adamson, op. cit., p. 272.

1923

No. 75 (Japan). Explosion on board. Casualties not given.

1. USNIP, v. 49, 1923, p. 1347.

1923 August 21

No. 70 (Japan). Sank due to premature hatch opening, 38 dead.

1. Lockwood and Adamson, op. cit., p. 272.
2. Cross, op. cit., p. 84 (88 dead).

1923 October 29

O-5 (SS 66) (US). Collision with freighter Abangares, 3 dead.

1. Lockwood and Adamson, op. cit., p. 272.
2. USNIP, v. 58, 1932, p. 1531.
3. Navy Times, 15 April 1959, p. 22.

1923 December

L-11 (Great Britain). Explosion while fueling, 1 dead.

1. Lockwood and Adamson, op. cit., p. 272.

1924 January 10

L-24 (Great Britain). Rammed by HMS Resolution, 41 dead.

1. Lockwood and Adamson, op. cit., p. 272.
2. USNIP, v. 50, 1924, p. 446.

1924 March 19

RO-25 (Japan). Collided with cruiser, 45 dead.

1. Lockwood and Adamson, op. cit., p. 273.
2. USNIP, v. 50, 1924, p. 832 (44 dead).

1924

No. 43 (Japan). Sunk, 49 dead.

1. Cross, op. cit., p. 84.
2. USNIP, v. 50, 1924, p. 991.

1924 April 8

RO-14 (Japan). Faulty torpedo shot backward into boat, 1 dead.

1. Lockwood and Adamson, op. cit., p. 274.

1925 August 26

Sebastino Veniero (Italy). Rammed by SS Capena while submerged, 54 dead.

1. Lockwood and Adamson, op. cit., p. 274.
2. Engineering, v. 120, 2 October 1925, pp. 420-421.

1925 September 25

S-51 (SS 162) (US). Rammed by SS City of Rome, 33 dead.

1. Lockwood and Adamson, op. cit., pp. 117-140.
2. Ellsberg, Edward. On the Bottom. New York, Dodd-Mead, 1929.

3. Engineering, v. 120, 2 October 1925, pp. 420-421.
4. USNIP, v. 62, 1936, p. 329.
5. Engineering News, "Both Captains Blamed for Sinking Sub S-51," 2 October 1925.
6. Cross, op. cit., pp. 107-108 (34 dead).

1925 November 12

M-1 (Great Britain). Rammed by SS Vidar, 69 dead.

1. Lockwood and Adamson, op. cit., p. 275.
2. Engineering, v. 120, 20 November 1925, p. 646.
3. Illustration, v. 83, 21 November 1925, p. 554.
4. USNIP, v. 52, 1926, p. 332.
5. Cross, op. cit., pp. 83-84.
6. Shelford, op. cit., p. 54.

1926 April 20

S-49 (SS 160) (US). Battery explosion, 4 dead.

1. Lockwood and Adamson, op. cit., p. 275.

1926 August 9

H-29 (Great Britain). Trimmed with open hatches, foundered, 6 dead.

1. Lockwood and Adamson, op. cit., p. 276.
2. USNIP, v. 52, 1926, p. 2337.

1927 December 17

S-4 (SS 109) (US). Rammed by USCG destroyer Paulding, 40 dead.

1. Lockwood and Adamson, op. cit., pp. 141-168.
2. Cross, op. cit., pp. 109-138.
3. Shelford, op. cit., pp. 54-58.
4. Scientific American, v. 138, March 1928, pp. 219-221.
5. Ibid., v. 142, March 1930, p. 209.
6. USNIP, v. 54, 1928, pp. 163, 602, 692.
7. Ibid., v. 55, 1929, p. 332.
8. U.S. Congress, Senate Committee on Naval Affairs. Investigation into the Sinking of the S-4. Washington, D.C., U.S. Government Printing Office, 1928.

9. Engineering News-Record, v. 100, 1 March 1928, p. 371.
10. New York Times Magazine, 15 December 1957, pp. 20-21.

1928 May 6

F-14 (Italy). Collided with destroyer, 31 dead.

1. Lockwood and Adamson, op. cit., p. 276.
2. Illustration, v. 86, 18 August 1928, p. 169.
3. Cross, op. cit., p. 84.

1928 October 12

Ondine (France). Collided with Greek steamer, 43 dead.

1. Cross, op. cit., p. 84.
2. Illustration, v. 86, 20 October 1928, pp. 448-449.
3. New York Times, 13 October 1928, p. 1.

1929 July 9

H-47 (Great Britain). Collided with submarine L-12, 24 dead.

1. USNIP, v. 55, 1929, p. 806.
2. Lockwood and Adamson, op. cit., p. 276 (L-120, 21 dead).

1931 June 9

Poseidon (Great Britain). Collided with SS YuTa, 20 dead.

1. Shelford, op. cit., pp. 59-60.
2. Lockwood and Adamson, op. cit., p. 276 (SS Tuta).
3. USNIP, v. 57, 1931, p. 1262.
4. Cross, op. cit., p. 151 (14 dead).

1931 October 24

(Unidentified) (USSR). Sunk in Gulf of Finland, 50 dead.

1. Lockwood and Adamson, op. cit., p. 276.

1932 January 26

M-2 (Great Britain). Foundered due to open hatch, 60 dead.

1. Prendergast, M., "The M-2 Disaster," The Navy, May 1932.
2. Shelford, op. cit., pp. 62-63.
3. Lockwood and Adamson, op. cit., p. 276 (50 dead).
4. Illustration, v. 181, 6 February 1932, p. 181.
5. La Nature, v. 60, 15 February 1932, p. 186.

1932 February 25

H-42 (Great Britain). Sunk, 26 dead.

1. Lockwood and Adamson, op. cit., p. 276.

1932 July 7

Prométhée (France). Sunk, 62 dead.

1. Lockwood and Adamson, op. cit., p. 276 (Promelhee).
2. Cross, op. cit., p. 84.
3. J. Débats, v. 39, 15 July 1932, pp. 104-106.
4. Ibid., 22 July 1932, pp. 151-152.
5. Ibid., 11 November 1932, pp. 798-800.
6. Illustration, v. 182, 16 July 1932, p. 360.

1935 July 25

B-3 (USSR). Collided with warship, 5 dead.

1. Lockwood and Adamson, op. cit., p. 277.

1936 November 20

U-18 (Germany). Rammed, 8 dead.

1. Lockwood and Adamson, op. cit., p. 277.

1936 December 12

(Unidentified) (Spain). Sunk by torpedo, 47 dead.

1. Lockwood and Adamson, op. cit., p. 277.

1938 July 27

L'Espoire (France). Paint fume explosion, 1 dead.

1. Lockwood and Adamson, op. cit., p. 277.

1938 November 14

Tupy Ti (Brazil). Battery explosion, 1 dead.

1. Lockwood and Adamson, op. cit., p. 277.

1939 February 12

I-63 (Japan). Collided with another submarine, 81 dead.

1. Lockwood and Adamson, op. cit., p. 277.
2. Cross, op. cit., p. 158.

1939 May 23

Squalus (SS 192) (US). Foundered during dive, 26 dead.

1. Barrows, N. A. Blow All Ballast. New York, Dodd-Mead, 1940. Contains findings of Naval Court of Inquiry.
2. Lockwood and Adamson, op. cit., pp. 203-227.
3. Shelford, op. cit., pp. 70-81.
4. Cross, op. cit., pp. 157-182.
5. Reader's Digest, October 1956, pp. 109-115.
6. Time, 5 June 1939, pp. 18-19.
7. Ibid., 13 July 1939, p. 12.
8. Commonweal, 9 June 1939, pp. 170-171.

1939 June 1

Thetis (Great Britain). Sank due to open torpedo tube, 99 dead.

1. Warren, C.E.T., and Benson, J. Only Four Escaped. New York, William Sloane, 1959.
2. Lockwood and Adamson, op. cit., p. 277.
3. Shelford, op. cit., pp. 82-108.
4. Cross, op. cit., pp. 169-170.
5. USNIP, v. 65, 1939, pp. 1649-1650.
6. Economist, v. 150, 23 March 1946, pp. 446-447.
7. The Shipbuilder, May 1940, p. 205.
8. Engineering, v. 167, 9 June 1939, pp. 685, 707-708.
9. Ibid., v. 169, 12 April 1940, pp. 347-349, 392-393.
10. Ibid., 19 April 1939, pp. 417-419.
11. Shipbuilding and Shipping Record, 1939: 8 June, p. 730; 6 July, p. 18; 13 July, p. 47; 20 July, p. 89; 27 July, p. 118 (Thetis inquiry proceedings).
12. Ibid., 1940: 11 April, pp. 363-367; 18 April, p. 398; 25 April, p. 421; 2 May, p. 449 (Thetis inquiry proceedings).
13. Time, 12 June 1939, pp. 24-25.

1939 June 15

Phenix (France). Sunk off Indochina, 71 dead.

1. Lockwood and Adamson, op. cit., p. 277.

2. Cross, op. cit., p. 159 (63 dead).
3. Time, 6 June 1939, p. 25.
4. Illustration, v. 203, 24 June 1939, p. 293.

1940 April 6

O-11 (Holland). Rammed by tug, 3 dead.

1. Lockwood and Adamson, op. cit., p. 277.

1941 June 20

O-9 (SS 70) (US). Exceeded test depth during training mission, 33 dead.

1. Lockwood and Adamson, op. cit., p. 277.
2. Commercial and Financial Chronicle, v. 152, 28 June 1941, p. 4052.
3. Time, 30 June 1941, p. 20.

1941 July 19

Umpire (Great Britain). Rammed HMS Forward, 15 dead.

1. Shelford, op. cit., pp. 129-137.
2. Lockwood and Adamson, op. cit., p. 278.

1941 October 3

I-61 (Japan). Sunk due to unknown causes, all hands lost, no casualty figures cited.

1. Lockwood and Adamson, op. cit., p. 278.

1942 January 25

S-26 (SS 131) (US). Collision with USS PC 460 while surfaced, 46 dead.

1. Roscoe, Theodore. US Submarine Operations in World War II. Annapolis, US Naval Institute, 1949. pp. 91-92.
2. Lockwood and Adamson, op. cit., p. 278.
3. Navy Times, 15 April 1959, p. 22.

1942 June 21

P-514 (Great Britain). Formerly R-19 (SS 96). Rammed by HMCS Georgian. All hands lost, no casualty figures cited.

1. Lockwood and Adamson, op. cit., p. 278.
2. Navy Times, 15 April 1959, p. 22.

1942 August 17

Bass (SS 164) (US). Fire in battery room while at sea, 26 dead.

1. DANFS, v. 1, p. 103.

1942 November 4

X-3 (Great Britain). Foundered, leaky valve, 3 dead.

1. Lockwood and Adamson, op. cit., p. 278.
2. Shelford, op. cit., pp. 162-163 (0 dead).

1943 May 30

Untamed (Great Britain). Foundered, faulty operations, all hands lost, no casualty figures cited.

1. Shelford, op. cit., pp. 181-190.
2. Lockwood and Adamson, op. cit., p. 278.

1943 June 12

R-12 (SS 89) (US). Foundered via torpedo tube during training, 42 dead.

1. Roscoe, op. cit., p. 248.
2. Lockwood and Adamson, op. cit., p. 278.
3. Navy Times, 15 April 1959, p. 22.

1944 March

Tullibee (SS 284) (US). Destroyed by own torpedo. One saved, no casualty figures cited.

1. Roscoe, op. cit., pp. 320-321.
2. Navy Times, 15 April 1959, p. 22.

1944 July 4

S-28 (SS 133) (US). Foundered off Pearl Harbor, 50 dead.

1. Roscoe, op. cit., pp. 347-348.
2. Lockwood and Adamson, op. cit., p. 278.
3. Navy Times, 15 April 1959, p. 22.

1944 September 1

Crevalle (SS 291) (US). Accidental submerging with open hatch, 1 dead.

1. DANFS, v. 2, p. 205.

1944 October 24

Tang (SS 306) (US). Struck by own torpedo, 79 dead.

1. Roscoe, op. cit., pp. 421-422.
2. Lockwood and Adamson, op. cit., pp. 194-202.
3. Shelford, op. cit., pp. 149-152.
4. Navy Times, 15 April 1959, p. 22.

1945 March 6

XE-11 (Great Britain). Collision while submerged. All lost, no casualty figures cited.

1. Lockwood and Adamson, op. cit., p. 278.

1945 April 26

Cod (SS 224) (US). Accidental fire in torpedo room, 1 dead.

1. DANFS, v. 2, p. 136.

1946 March 5

Orphee (France). Explosion aboard, 2 dead.

1. New York Times, 6 March 1946, p. 3.

1946 December 6

Unidentified (France). Struck stray mine, 18 dead.

1. New York Times, 7 December 1946, p. 9.
2. Ibid., 8 December 1946, p. 48.
3. Ibid., 9 December 1946, p. 7.

1947 February 24

Spikefish (SS 404) (US). Seaman asphyxiated while submarine berthed, 1 dead.

1. New York Times, 25 February 1947, p. 21.

1947 November 21

R-3 (SS 80) (US loan to Great Britain). Lost due to unknown causes, no casualty figures cited.

1. Lockwood and Adamson, op. cit., p. 278.
2. Navy Times, 15 April 1959, p. 22.

1949 July 25

Cochino (SS 365) (US) and Tusk (SS 426) (US). Cochino destroyed

by H_2 explosions and fire in stormy weather; 1 (civilian) lost during rescue by Tusk, 6 personnel from Tusk lost overboard.

1. Lockwood and Adamson, op. cit., pp. 228-238.
2. Lederer, W. The Last Cruise. New York, William Sloane, 1950.
3. Sat. Eve. Post, 14 January 1950, pp. 17-19.
4. DANFS, v. 2, p. 135.
5. Navy Times, 15 April 1959, p. 22.
6. Cross, op. cit., pp. 209-226, 227, 251.

1950 January 12

Truculent (Great Britain). Collision with tanker Divina in Thames Estuary, 61 dead.

1. Shelford, op. cit., pp. 204-220.
2. Warren and Benson, op. cit., pp. 206-207.
3. Lockwood and Adamson, op. cit., p. 279.
4. Time, 23 January 1950, pp. 19-20.
5. Illustrated London News, v. 216, 25 March 1950, pp. 454-455.
6. Colliers, 23 May 1953, pp. 15-18.
7. Popular Science, December 1953, pp. 107-109.

1950 April 7

(Unidentified) (Great Britain). Midget submarine explosion, 1 dead.

1. New York Times, 8 April 1950, p. 3.

1951 April 17

Affray (Great Britain). Flooded due to snorkel failure, 75 dead.

1. Shelford, op. cit., pp. 109-119.
2. Lockwood and Adamson, op. cit., p. 279.
3. Illustrated London News, v. 218, 28 April 1951, p. 6558.
4. Engineer, v. 191, 18 May 1951, p. 658.

1952 September 24

La Sybille (France). Foundered off Toulon, 48 dead.

1. New York Times, 25 September 1952, p. 1.
2. Ibid., 26 September 1952, p. 5.
3. Ibid., 27 September 1952, p. 2.
4. Lockwood and Adamson, op. cit., p. 279 (Sybille, 70 dead).

1953 April 4

Dumlumpinar (Turkey) (ex-USS Blower, SS 325). Collision with Swedish freighter, 91 dead.

1. Lockwood and Adamson, op. cit., p. 279.
2. Shelford, op. cit., p. 81.
3. Navy Times, 15 April 1959, p. 22.
4. DANFS, v. 1, p. 133.

1954 June 2

Sirago (SS 485) (US). Explosion while in drydock, 2 dead.

1. New York Times, 3 June 1954, p. 55.
2. Ibid., 24 July 1954, p. 6.

1955 February 20

Pomodon (SS 486) (US). Blast and fire aboard while in Navy yard, 5 dead.

1. New York Times, 21 February 1955, p. 2.
2. Ibid., 22 February 1955, p. 8.
3. Ibid., 23 February 1955, p. 49.

1955 June 16

Sidon (Great Britain). Flooded after torpedo explosion, 13 dead.

1. Lockwood and Adamson, op. cit., p. 279.

1958 April 23

Cutlass (SS 478) (US). Officer swept from bridge during storm, 1 dead.

1. New York Times, 24 April 1958, p. 17.

1960 June 10

Sargo (SSN 583) (US). Oxygen explosion while moored, 1 dead.

1. Lockwood and Adamson, op. cit., p. 279.

1963 April 10

Thresher (SSN 593) (US). Foundered during deep dive, 129 dead.

1. U.S. Congress, Joint Committee on Atomic Energy. Loss of the USS Thresher. Washington, D.C., U.S. Government Printing Office, 1965.
2. USNIP, v. 90, No. 733, 1964, pp. 36-47 (history).
3. Ibid., v. 90, No. 735, 1964, pp. 64-97 (search).
4. Polmer, Norman. Death of the Thresher. Philadelphia, Chilton, 1964.
5. National Geographic, v. 125, June 1964, pp. 759-763 (search).
6. Ibid., pp. 765-777 (search using Trieste).
7. Scientific American, v. 209, November 1963, pp. 66-69.
8. Saturday Review, 5 October 1963, pp. 57-60.
9. Popular Science, February 1964, pp. 102-109.

1963 May 7

Flasher (SS 249?) (US). Fire in shipyard, 3 dead.

1. New York Times, 8 May 1963, p. 30.

1965 January 17

(Unidentified) (Switzerland). Midget submarine lost, 2 dead.

1. New York Times, 18 January 1965, p. 12.