

WCD 5

Filed Jan 31, 1966
10:35 am



United States of America
THE STATE OF WISCONSIN
CONSERVATION COMMISSION



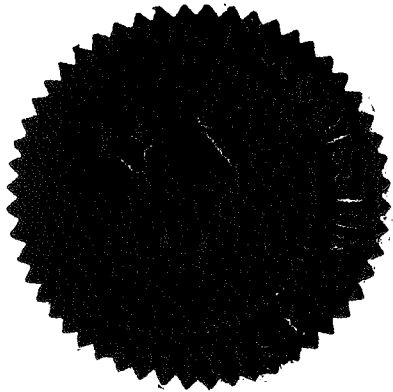
To All Whom These Presents Shall Come:

I, L. P. Voigt

Director of the Conservation Commission of the State of Wisconsin, do hereby certify that the annexed copy of Conservation Commission Order

B-3-66

has been compared by me with the original order in my custody and on file in the office of the Conservation Commission at Madison, Wisconsin, and that the same is a true copy thereof, and of the whole of such original order; that said order was duly passed and published as set forth therein.



In Testimony Whereof, I have hereunto set my hand and affixed the Seal of the State Conservation Commission of Wisconsin at the State Office Building in the City of Madison, this 26th

day of January 1966

L. P. Voigt Conservation Director

STATE CONSERVATION COMMISSION
OF WISCONSIN

IN THE MATTER OF amending section T
WCD 5.05 (2); repealing and recreat-
ing section WCD 5.09 and creating
section WCD 5.12 of the Wisconsin
Administrative Code relating to
establishment of a system of uniform
aids to navigation; numbering of
boats and capacity of boats.

Order No. B-3-66

ORDER OF THE STATE CONSERVATION COMMISSION OF WISCONSIN
ADOPTING, AMENDING AND REPEALING RULES

Pursuant to authority vested in the State Conservation Commission of Wisconsin, by sections 30.501, 30.74 (2) and 30.53, Wis. Stats., the State Conservation Commission of Wisconsin hereby repeals, amends and adopts rules as follows:

Section 1. WCD 5.05 (2) of the Wisconsin Administrative Code is amended to read:

WCD 5.05 (2) The group of numerals appearing between the abbreviation and the 2 letters shall be separated therefrom by hyphens or equivalent spaces as indicated by the following samples: WS-9999-AB, WS 9999 AB.

Section 2. WCD 5.12 of the Wisconsin Administrative Code is created to read:

WCD 5.12 SPECIFICATIONS FOR DETERMINATION OF WEIGHT CAPACITY AND RECOMMENDED NUMBER OF PERSONS. (1) Determination of weight capacity of those vessels covered by s. 30.501, Wis. Stats., designed for or represented by the manufacturer as being suitable for use with outboard motor or designed to be propelled by oars, except those vessels dependent solely upon the buoyancy of pontoons or similar flotation devices.

(a) Step 1: The cubic volume of the hull shall be determined up to a reference plane (static float line) which passes through the lowest point of major leakage, such as the low point of the gunwale, transom cut-out or top of motor well, and is parallel with a line connecting the intersections of the sheer with the forward face of the stem and the sheer with the after-face of the transom. "Sheer" is defined as the intersection of the hull with deck, gunwale or super-structure.

(b) Step 2: The weight capacity shall be determined by converting the hull cubic volume (Step 1) to the weight of water displaced by this volume as follows: multiply the product of Step 1 by 62.5, then subtract the weight of the vessel, and divide the remainder by a safety factor of five.

(c) The following work sheet (Table I) can be used in determining the weight capacity of the hull. The figures to be inserted are taken from the boat dimension drawings (Table II) to which the letters under the blank spaces refer. All dimensions should be converted to decimal numbers before insertion in the formula. Table III converts inches and eighths of inches to the decimal equivalents in feet.

(2) Determination of weight capacity of those vessels covered by s. 30.501, Wis. Stats., which have permanently installed engines, except those vessels dependent solely upon the buoyancy of pontoons or similar flotation devices.

(a) Weight capacity shall be determined in the same manner as for vessels represented as being suitable for use with outboard motor except that the weight of all machinery and associated operating gear including battery, fuel and fuel system shall be subtracted.

(3) Determination of weight capacity of those vessels covered by s. 30.501,

TABLE I CAPACITY FORMULA WORK SHEET

Step 1. Compute Areas of Sections

Formula: Area = $\frac{H}{12} (a + 4b + 2c + 4d + e)$

Note: For maximum allowable height (H) in any section, check inside this form.

Area A - Section Quarter Length Forward:

A = $\frac{H}{12} [\frac{a}{12} + 4(\frac{b}{12}) + 2(\frac{c}{12}) + 4(\frac{d}{12}) + \frac{e}{12}]$

A = _____ square feet (two decimal places)

Area B - Section Amidships:

B = $\frac{H}{12} [\frac{a}{12} + 4(\frac{b}{12}) + 2(\frac{c}{12}) + 4(\frac{d}{12}) + \frac{e}{12}]$

B = _____ square feet (two decimal places)

Area C - Section Quarter Length Aft:

C = $\frac{H}{12} [\frac{a}{12} + 4(\frac{b}{12}) + 2(\frac{c}{12}) + 4(\frac{d}{12}) + \frac{e}{12}]$

C = _____ square feet (two decimal places)

Area D - Section Aft:

D = $\frac{H}{12} [\frac{a}{12} + 4(\frac{b}{12}) + 2(\frac{c}{12}) + 4(\frac{d}{12}) + \frac{e}{12}]$

D = _____ square feet (two decimal places)

Compute Cubic Capacity

Formula: Cubic Capacity of Hull = $\frac{L}{12} (4A + 2B + 4C + D) + \text{Note 1.}$

Cubic Capacity = $\frac{L}{12} [4(\frac{A}{12}) + 2(\frac{B}{12}) + 4(\frac{C}{12}) + \frac{D}{12}] + \text{_____}$

Cubic Capacity = _____ cubic feet (one decimal place)

Inches	Decimals
1/8"	.010'
1/4"	.021'
3/8"	.031'
1/2"	.042'
5/8"	.052'
3/4"	.062'
7/8"	.073'
1"	.083'
2"	.167'
3"	.250'
4"	.333'
5"	.417'
6"	.500'
7"	.583'
8"	.667'
9"	.750'
10"	.833'
11"	.917'

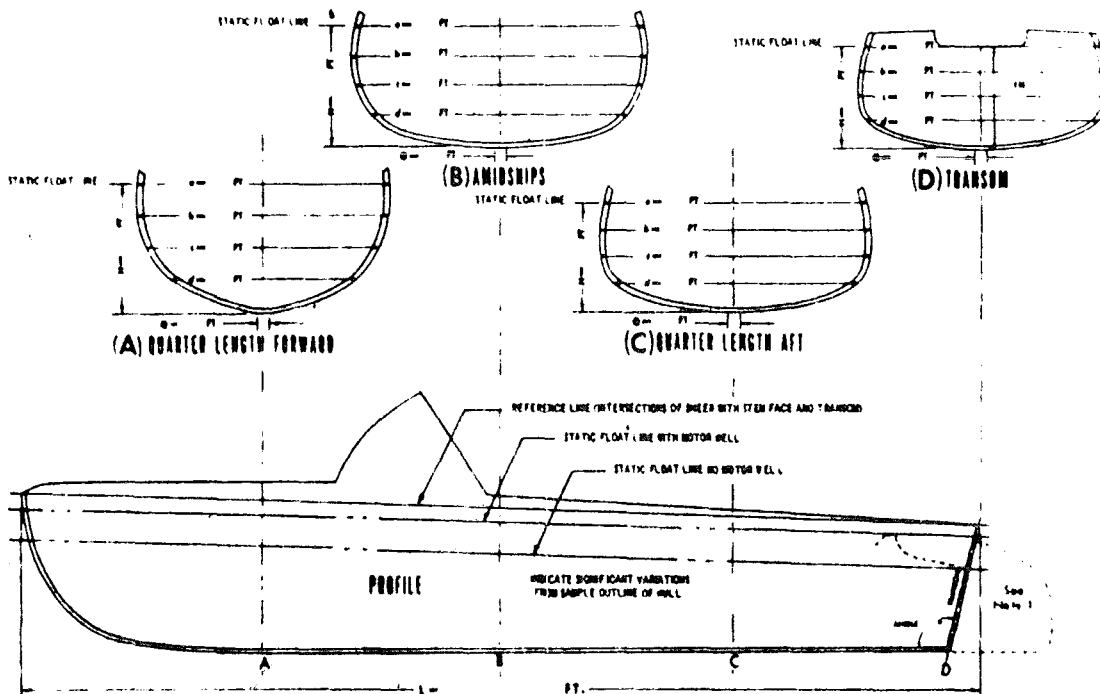
Step 2. Compute Maximum Weight Capacity

Formula: Capacity = $\frac{(\text{Cubic Capacity} \times 62.5) - \text{Boat Weight} }{5}$

Capacity = $\frac{(\text{_____} \times 62.5) - \text{_____} }{5}$

Capacity = _____ pounds (nearest whole number)

TABLE II BOAT DIMENSIONS



Length from Stem face to the outside Highest Point of Transom on a Straight Line Parallel to Keel.

STATIC FLOAT LINE passes through the points of major leakage and is parallel with a line connecting the intersections of the sheer with the forward face of the stem and the sheer with the afterface of the transom.

TRANSVERSE SECTIONS (A, B and C) are taken at three points obtained by dividing length (L) into four equal parts.

HORIZONTAL BREADTHS (a, b, c, d, and e) are secured by measuring at upper and lower points of the height (H) and at three points selected by dividing (H) into four equal parts below the static float line.

MEASUREMENTS are taken outside planking or plating and recorded in feet with decimal equivalents for inches and eighths.

Note 1. The volume of integral structures aft of the transom below the static float line may be added to the calculated cubic capacity.

Wis. Stats., which are dependent solely upon the buoyancy of pontoons or similar flotation devices.

(a) Weight capacity shall be determined by the following tests or by the substitute method provided if the conditions stated therein are met. The tests shall be conducted with the maximum horsepower motor for which the boat is recommended and with full fuel tanks and operating equipment in normal position.

1. The transverse stability shall be tested by adding weight on the lower deck in the extreme outboard position which the arrangement permits (i.e., within one foot of the edge) until the top of the pontoon on the loaded side becomes awash.

2. The longitudinal stability shall be tested by adding weight on the lower deck evenly about a point $1/4$ of the length of the deck from forward until the edge of the lower deck becomes immersed. This test shall be repeated at the after end of the craft by adding weight evenly about a point $1/4$ of the length of the deck from aft until the edge of the lower deck or the top of the motor mounting bracket becomes immersed, whichever occurs first.

3. In a design having more than one deck intended to support passengers (i.e., having railings and means of access), the tests in pars. 1 and 2 shall also be conducted by adding weight in the specified locations on the upper deck until the conditions specified in 1 and 2 above respectively are attained.

4. Ninety percent (90%) of the least of the weights attained by the tests in pars. 1 and 2 shall be the weight for passengers.

5. The weight capacity for the craft shall then be the sum of the weight for passengers plus the weight for the maximum horsepower motor

for which the boat is recommended, full fuel tanks and operating equipment.

(b) A substitute method for determining the weight capacity of pontoon boats may be applied to pontoon boats having only one deck. The deck must be within the width of the pontoons, must be no more than six inches above the pontoons, its length within the railings must be no more than 80% of the pontoon length, must not overhang the pontoon, and must be capable of draining overboard freely. If the boat complies with these conditions, the weight capacity shall not exceed one half of the reserve buoyancy of the boat which shall be determined by subtracting the weight of the vessel including the weight of the maximum horsepower motor for which the boat is recommended, full fuel tanks and normal operating equipment from the buoyant force of the boat's pontoons or similar flotation devices.

(4) The recommended passenger capacity of those vessels covered by s. 30.501, Wis. Stats., shall be determined by the following equations, using whichever is less:

$$(a) \quad P = \frac{WC - (M + G)}{w}$$

P = passengers

WC = weight carrying capacity

M = maximum motor weight (not applicable to boats which have permanently installed engines)

G = gear weight (not applicable to boats which have permanently installed engines)

w = average weight of one passenger, but not less than 150 pounds

$$(b) \quad P = \frac{L \times B}{15}$$

P = passengers

L = boat length

B = maximum boat beam

(5) In the preceding paragraphs of this section all linear measurements are taken outside planking or plating and recorded in feet with decimal equivalents for inches and eighths, all volume measurements in cubic feet and all weight measurements are in pounds.

Section 3. WCD 5.09 of the Wisconsin Administrative Code is repealed and recreated to read:

WCD 5.09 UNIFORM AIDS TO NAVIGATION. (1) Definitions. (a) "Waterway marker" is any device designed to be placed in, on or near the water to convey an official message to a boat operator on matters which may affect health, safety, or well being, except that such devices of the United States or an agency of the United States are excluded from the meaning of this definition.

(b) "Regulatory marker" is a waterway marker which has no equivalent in the U. S. Coast Guard aid to navigation.

(c) "State aid to navigation" is a waterway marker which is the equivalent of a U. S. Coast Guard aid to navigation.

(d) "Buoy" is any device designed to float which is anchored in the water and which is used to convey a message.

(e) "Sign" is any device for carrying a message which is attached to another object such as a piling, buoy, structure or the land itself.

(f) "Display area" is the area on a sign or buoy needed for display of a waterway marker symbol.

(g) "Symbols" are geometric figures such as diamond, circle, rectangle, used to convey a basic message.

(2) Waterway markers used on the waters of this state. (a) State aids to navigation.

1. A red buoy or sign shall indicate that side of a channel to be kept to the right of a vessel when entering the channel from the main water body or when proceeding upstream.

2. A black buoy or sign shall indicate that side of a channel to be kept to the left of a vessel when entering the channel from the main water body or when proceeding upstream.

3. Buoys or signs in 1 and 2 above shall normally be used in pairs and only for the purpose of marking a clearly defined channel.

4. A black and white vertically striped buoy or sign shall indicate the center of a navigable waterway.

5. Aids to navigation shall be numbered or lettered for identification. Red buoys and signs marking channels shall be identified with even numbers, and black buoys and signs marking channels shall be identified with odd numbers, the numbers increasing from the main body or proceeding upstream. Buoys and signs indicating the center of a waterway will be identified by letters of the alphabet. All numbers and letters used to identify state aids to navigation shall be preceded by the letters "WS", as indicated by the following samples: WS-1, WS-A.

6. Letters and numerals used with aids to navigation shall be white, in block characters of good proportion and spaced in a manner which will provide maximum legibility. Such letters and numerals shall be at least 3 inches in height.

7. The shapes of aids to navigation shall be compatible with the shapes established by Coast Guard regulations for the equivalent Coast Guard aids to navigation.

8. Where reflectorized materials are used, a red reflector will be used on a red buoy, and a green reflector on a black buoy.

(b) Regulatory markers.

1. A diamond shape of international orange with white center shall indicate danger. The nature of the danger may be indicated by words or well-known abbreviations in black letters inside the diamond shape, or above and/or below it on white background.

2. A diamond shape of international orange with a cross of the same color within it against a white center without qualifying explanation shall indicate a zone from which all vessels are excluded.

3. A circle of international orange with white center will indicate a control or restriction. The nature of the control or restriction shall be indicated by words, numerals, and/or well-known abbreviations in black letters inside the circle. Additional explanations may be given above and/or below it in black letters on white background.

4. A rectangular shape of international orange with white center will indicate information, other than a danger, control or restriction, which may contribute to health, safety or well-being. The message will be presented within the rectangle in black letters.

5. Letters or numerals used with regulatory markers shall be black, in block characters of good proportion, spaced in a manner which will provide maximum legibility, and of a size which will provide the necessary degree of visibility.

(3) Authority to place markers. (a) No waterway marker shall be placed on, in, or near the waters of the state unless such placement is authorized by an agency or political subdivision of the state having power to give such authorization, except that the provisions of this section shall not apply to private aids to navigation under the jurisdiction of the U.S. Coast Guard.

(b) Such agency or political subdivision of the state will, prior to authorizing placement, obtain the necessary clearances of any federal and state agencies concerned.

(c) The agency or political subdivision of the state authorizing the placement of a waterway marker will inform the commission of the following:

1. Exact location of the marker, expressed in latitude and longitude, or in distance and direction from one or more fixed objects whose precise location is known.

2. The description and purpose of the marker, including its identifying number, if any, as required by s. (2) (a) 5. above.

(4) Maintenance of waterway markers. Waterway markers shall be maintained in proper condition, or be replaced or removed.

(5) Display of waterway markers. (a) A waterway marker may be displayed as a sign on a fixed support, as a buoy bearing a symbol on its surface, or as a sign mounted on a buoy.

(b) When a buoy is used to carry a symbol on its surface, it will be white, with a band of international orange at the top and a band of international orange above the waterline at the bottom.

(c) A buoy whose sole purpose is to carry a sign above it will be marked with three bands of international orange alternating with two bands of white, each band occupying approximately one-fifth of the total area of the buoy above the waterline, except where the sign itself carries orange bands; however, nothing in these regulations will be construed to prohibit the mounting of a sign on a buoy which has been placed for a purpose other than that of carrying a sign.

(d) When symbols are placed on signs, a suitable white background may be used outside the symbol.

(6) Specifications for waterway markers. (a) The minimum size of buoys shall be 36 inches riding above the waterline with a 7-inch diameter. The size of the display area shall be as required by circumstances, except that no display area shall be smaller than one foot in height. Display symbol markers shall be shown on two sides of buoys.

(b) The thickness of the symbol outline shall be not less than 2 inches in width.

(c) The outside width of the diamond, the inner diameter of the circle, and the average of the inside and outside widths of a square shall be two-thirds of the display area height.

(d) The sides of the diamond shall slope at a 35° angle from the vertical on a plane surface. Appropriate adjustments for curvature may be made when applied to a cylindrical surface.

(e) Waterway markers shall be made of materials which will retain, despite weather and other exposures, the characteristics essential to their basic significance, such as color, shape, legibility and position. Reflectorized materials may be used.

(f) All unlighted aids to navigation shall be equipped with a reflector material of at least 2 inches all around the uppermost part.

(7) Other Waterway Marking Devices. (a) Mooring buoys. In order that mooring buoys shall not be mistaken for aids to navigation or regulatory markers, they shall extend 18 inches above the waterline, be white in color with a blue band clearly visible above the waterline, and they should be spherical or ovate in shape.

(b) Placement of markers such as mooring buoys and permanent race course markers will be processed in the same manner as waterway markers.

(c) Such markers shall not be of a color, shape, configuration or marking which would result in their confusion with any federal or state aid to navigation or any state regulatory marker, and shall not be placed where they will obstruct navigation, cause confusion, or constitute a hazard.

(d) Exemptions as to size, shape and color may be made by local

authorities, pursuant to s. 30.77, Wis. Stats., for the temporary (not to exceed 14 days) placement of mooring buoys, race course markers, water ski course markers for special events.

The rules, amendments and repeals contained herein shall take effect on March 1, 1966.

Approved by the Wisconsin Conservation Commission on January 14, 1966.

Dated:

STATE CONSERVATION COMMISSION OF WISCONSIN

By

L. P. Voigt, Conservation Director