Appendix A. *Spelling List*

This appendix shows the treatment of technical terms that are encountered frequently in AFS publications. There are two lists, one for terms relating to mathematics and statistics and one for other terms. Parts of speech are abbreviated as follows: adj = adjective, adv = adverb, n = noun, and v = verb. Superscripted numerals refer to notes at the end of the appendix.

The sources for the second list are abbreviated as follows: W11 = *Merriam-Webster's Collegiate Dictionary*, 11th edition; W3 = *Webster's Third New International Dictionary* (but not W11); and CMS = *Chicago Manual of Style*, 15th edition.

Asterisks indicate terms that are not in either of the two dictionaries; plus signs indicate terms for which AFS's treatment differs from that in these dictionaries.

1. *Mathematical and Statistical Terms*

analysis of variance (n; adj)
analysis of covariance (n; adj)
arcsine (arcsin in mathematical
  expressions, e.g., arcsin[$x + 1$])
arcsine transformation
arcsine-transformed

Bartlett's test
base e, base 10 (n)
base-e, base-10 (adj)
best fit (n)
best-fit (adj)
Beverton–Holt
Bonferroni
bootstrap

Chapman–Robson method
chi-square (*or* χ^2) test (*not* chi-squared test)
coefficient of variation (define as
  $100 \times$ SD/mean *or* $100 \times$ SE/mean)
cross-classify
detrended correspondence analysis
discriminant function analysis
dome-shaped curve

Delphi technique
Duncan's multiple-range test

$E(x)$ (expected value)
η (eta; amount of variation in a given
  variable accounted for by ANOVA)
expectation-maximization algorithm
error-prone estimates

Friedman's rank-sum statistic
Friedman two-way analysis of variance
by ranks
F-statistic, -test, -value

general linear model (n; adj)
generalized least squares
G-test, -value
goodness of fit (n)
goodness-of-fit (adj)
growth-invariant discriminant functions

H_0 (null hypothesis)
H_A (or H_a) (alternative hypothesis)
habitat suitability curve
Hardy–Weinberg expectation

heteroscedastic, -icity
homoscedastic, -icity
honestly significantly different test
Hotelling–Lawley criteria
Hotelling's T^2-statistic

Jolly–Seber model
Jonckheere test

Kendall coefficient of correspondence (W)
Kendall rank correlation coefficient (τ)
Kendall's tau (*or* τ)
Keuls' test
Kolmogorov D-statistic
Kolmogorov–Smirnov cumulative distribution test
Kolmogorov–Smirnov one-sample test
k-sample binomial test ($2 \times k$ test)
Kruskal–Wallis H-test
Kruskal–Wallis k-sample test

least significant difference (n)
least-significant-difference (adj)
least squares (n)
least-squares (adj)
linear discriminant analysis
$\log_e$ (*or* ln), $\log_{10}$
logistic regression
log-likelihood function
log-linear
lognormal, -ity
log-transformed (log transformed after its noun)

Mahalanobis distance
Mann–Whitney U-test
Markov chain–Monte Carlo
maximum likelihood (n; adj)
mean square error
Monte Carlo
multiattribute utility analysis
multinomial distribution
multiple comparison procedure
multiple correlation (n)
multiple-correlation (adj)

multiple regression (n)
multiple-regression (adj)
multisample single recapture model
multivariate analysis
multivariate analysis of variance

Newman–Keuls
nonlinear least-squares regression
nonuniform probability sampling

one-way analysis of variance

pair-group method
pairwise comparison
Pearson's product-moment correlation coefficient
Pillai criteria
product-moment correlation
product-multinomial sampling
P-value

r (correlation coefficient)
R^2 (coefficient of multiple determination;
  r^2 if only one explanatory variable)
rank sum (n)
rank-sum (adj)

Scheffé's statistic
Shannon–Weiner diversity index (H')
Shapiro–Wilk W
signed rank
sign test
skewed distribution
Spearman's rank correlation coefficient (r_s)
square-root-transformed data
stratified random design (*or* sampling)
stratified-random-sample model
Strauss's linear index
Student–Newman–Keuls test

time series analysis
t-test
Tukey–Kramer analysis
Tukey post hoc analysis

Tukey's test
two-way analysis of variance
type I (or II) error

unweighted pair-group method with
  arithmetic averages
U-test

Var(x) (or $V[x]$) (population variance)

var (x) (*or* $\hat{\text{var}}[x]$ *or* $\hat{V}[x]$) (sample
variance)
variance–covariance

W (Kendall coefficient of
correspondence)
Wilcoxon–Mann–Whitney two-sample
test
Wilcoxon matched-pairs, signed-ranks
test
Wilcoxon rank-sum test
Wilcoxon's signed rank test
Wilks criterion
Wilks' lambda (*or* λ)

x-axis, -coordinate, -intercept

y-axis, -coordinate, -intercept

2. *Other Terms*

acid-neutralizing*
acid-tolerant*
acre-foot, acre-feet (n)[W11]
acre-foot-day (n)*
acre-inch (n)[W11]
x at age (n)*
x-at-age (adj)*
age x (n)*

age-x (adj; age x after its noun)*
age-class (n[W3]; adj*)[17]
age-cohort (n; adj) [17]
age-group (n[W11]; adj*)[17]

age structure (n; adj)*
air bladder (n[W11]; adj*)[24]
air-breathing (adj)*
air-dried (adj; v)*
air-dry (v)[W11]
air sac (n)[W11] [in birds only]
air stone (n; adj)
alongshore (adj; adv)[W11]
ammonia nitrogen *or* NH_3-N (n[W3]; adj*)
ammonium nitrate (n[W11]; adj*)
ammonium nitrogen *or* NH_4^+-N (n[W3];
adj*)
angler data (n; adj)*
angler-day (n)*[19]
angler effort (n; adj)*
angler-hour (n)*[19]
appendices *or* appendixes (n)[W11]
aquaculture [*not* aquiculture]
artificial intelligence (n[W11]; adj*)

back-calculate (v)*
back-calculation (n)*
backwater (n)[W11]
baitfish (n)[W3]
bait line (n; adj)*
bait minnow (adj)*
bank fish (n[W3]; adj*)
bank-full (adj)[W3]
barbed wire (n)[W11]
barbed-wire (adj)*
barbwire (n; adj)*
bar code (n[W11]; adj*)
base flow (n; adj)*
baseplate (n)[W3]
B cell (n[W11]; adj*)[11]
bedform
bed load (n; adj)*
benefit-cost *or* cost-benefit (adj)[W11]
binary code (n)*
binary–coded wire tag (adj)*
biotelemetry (n)[W11]
blacktail (n)[W3]
bleb-like (adj)*[21]
block net (n)*
block-net (adj)*
blocknet (v)*

block-netter (n)*
block netting (n)*
block-netting (adj)*
blow down (v)*
blowdown (n; adj)[W11]
x boat *or* *x*boat (n)[18]
bottom fish (n[W3]; adj*)
bottom fishing (n[W3])
box plot (n)*
brackish water (n)[W11]
brackish-water (adj)[W11]
break up (v)[W11]
breakup (n)[W11]
breakwater (n)[W11]
brewer's yeast (adj)[W11]
brood female (n[W3]; adj*)
broodfish (n)*
broodsac (n)[W3]
broodstock (n)+
brood year (n; adj)*[20]
bus route (n; adj)*
bycatch (n)*
by-product (n)[W11]

carbon-14 (n; adj)+
case history (n[W3]; adj*)
cast net (n)[W3]
cast-net (adj)*
castnet (v)*
catch curve (n)
catch-curve (adj)
catch depletion method
catch–release (adj)*
catch and release (n)*
catch-and-release (adj)*
catch per effort *or* catch per unit effort (n)*
catch-per-effort *or* catch-per-unit-effort (adj)*
char (n)[W11] [*not* charr]
charter boat (n)*
charter boat *or* charter-boat (adj*)[18]
charter fishing boat (n)*
chlorophyll *a* (n)[W11]
chlorophyll-*a* (adj)*
clear-cut (n; adj)[W11]

clear-cut (v)*
clear-cutting (n[W11]; adj*)
cobalt-60 (n; adj)+[15]
coded wire tag (n; adj)*
coded-wire-tagged (adj; v)*
coded wire tagging (n)*
coded-wire-tagging (adj)*
cod end (n[W3]; adj*)
cold brand (n)*[8]
cold-brand (adj; v)*[8]
cold water (n)[W11]
coldwater (adj)+
cold-water disease (adj)*
common property (n)[W3]
common-property (adj)*
compact disc (n)[W11, 23]
contingent valuation (n; adj)*
cool water (n)*
coolwater (adj)*
cost-benefit (adj)[W11]
coworker (n)[W11]
cove rotenone sampling
creel (n; v)[W11]
crosshatch (n; v)[W11]
cross-hatching (n)[W11]
cross-react (v)[W11]
cross-reaction (n)[W11]
cross-reactive (adj)[W11]
cross section (n)[W11]
cross-section (v)[W11]
cross-sectional (adj)[W11]
cross validate (v)*
cross validation (n)*
cut bank (n; adj)*

daphnia (n)[W11] [define as *Daphnia* spp. at first use]
data (n)[W11] [singular: datum; data takes plural verb]
database (n)[W11]
data logger (n; adj)*
data set (n)*
x-day[19]
day length (n; adj)*
decision maker (n; adj)*[1]
decision making (n)*[2]

decision-making (adj)*[2]
deep sea (n)[W3]
deep-sea (adj)[W11]
deep water (n)*
deepwater (adj)[W11]
deepwaterman (n)[W3]
degree-day (n)[W11]
Dermo (n)*
desktop (n)[W11]
die off (v)[W11]
die-off (n[W11]; adj*)
dip net (n)[W11]
dip-net (adj)*
dipnet (v)[W11]
dipnetter (n)[W3]
dipnetting (n)[W3]
disc brake (n[W11]; adj*)[23]
disk *or* disc (n)[W11, 23]
distiller's (adj)+
D-loop (n; adj)
dome-shaped (adj)*
dorsolateral (adj)[W11]
dorsoventral (adj)[W11] [*not* dorsiventral]
dorsoventrally (adv)[W11]
double-tag (v)*
double-tagged (adj)*
downcurrent
downlake (adj; adv)*
download (v)[W11]
downstream (adj; adv)[W11]
drift net

early *x or* early-*x* (adj[W11])3
early (adv[W11])[3]
echolocation (n)[W11]
echo sounder (n[W11]; adj*)
echo sounding (n)*
echo-sounding (adj)*
ecosystem-wide (adj)*[22]
e-mail (n; adj)+
end label (n; adj)*
end-labeled (adj)*
endpoint (n)[W11] [end of line]
end point (n)[W11] [objective]
exvessel (n)* [prevailing usage]
eyed egg (n)[W3]

eyed egg stage (adj)*
eye-up (n; adj)*

family-group (n; adj)*
fax (n; v)[W11]
fieldwork (n)[W11]
field-worker (n)[W11]
filterability (n)[W11]
filterable (adj)[W11]
filter-feed (v)*
filter feeder (n)[W11]
filter feeding (n)*
filter-feeding (adj)*
fin clip (n; adj)*
fin-clipped, fin-clipping (v)*
fin clipping (n)
finfish (n)[W11]
fin fold (n[W3]; adj*)[5]
fin ray (n; adj)*
first-order (adj)[W11, 16]
fish culture (n[W3]; adj*)
fish culturist (n)*
fish farm (n[W11]; adj*)
fish-farm (v)[W11]
fish-farming (n[W3]; adj*)
fish-finder (n)[W3]
fish hatchery (n[W3]; adj*)
fish ladder (n[W3]; adj*)
fishline (n)[W3]
fish meal (n[W3]; adj*)
fishnet (n)[W11]
fishpond (n)[W11]
fishpound (n)[W3]
fishway (n)[W11]
fishweir (n)[W3]
fish well (n[W3]; adj*)
fish wheel (n[W3]; adj*)
floppy disk (n)[W11, 23]
flowmeter (n)[W11]
flow rate (n; adj)*
fly-fish (v)[W3]
fly fisher (n; adj)+
fly fisherman (n[W11]; adj*)
fly-fishing (n)[W11]
focal point (n; adj)*
*x*fold *or* *x*-fold [e.g., fourfold, 14-fold]

food fish (n[W3]; adj*)
footrope (n)[W11]
FORTRAN *or* Fortran (n)[W11]
freeze brand (n; v)*[8]
freeze-branded (adj; v)*[8]
freeze branding (n)*[8]
freeze-branding (adj; v)*[8]
freeze-dried (adj)[W11]
freeze-dry (v)[W11]
freeze-drying (n)[W3]
freshwater (n; adj)[W11] [as opposed to salt
 or brackish water]
fresh water (n) [new water]
full time (n)[W11]
full-time (adj; adv)[W11]
fyke net (n)
fyke netting (n)
fyke-net (adj; v)

gallbladder (n)[W11]
game fish (n[W11]; adj*)
game fisherman (n; adj)*
game-fishing (n; adj)*
gamma irradiation (n)*
gas bladder (n; adj)[24]
gauge (n; v)[W11] [*not* gage]
generating station (n)[W3, 4]
gill net (n)[W11]
gill-net (adj)*
gillnet (v)[W11]
gillnetter (n; adj)[W11]
gill netting (n)*
gillnetting (v)*
gill raker (n[W11]; adj*)
gray (adj)[W11] [*not* grey]
groundfish (n)[W11]
groundfish fishery (n)* [preferable
 to groundfishery]
ground truth (adj)*
ground-truth (v)
ground-truthing (n)*
groundwater (n)[W11]
group x[17]
grow out (v)[W3]
grow out (n)*
grow-out (adj)*

handline (n; v)[W3]
hard water (n)*
hard-water (adj)*
haulback
headboat (n)*[18]
headrope (n)[W3]
headstream (n)[W11]
headwater (n)[W11]
herpesvirus (n)[W11]
high sea (n)[W11] [usually plural]
high-sea (adj)*
high water (n)[W11]
high-water (adj)[W11]
hook and line (n)*
hook-and-line (adj)*
hook-and-liner (n[W3]; adj*) [the boat]
x-hour[19]
hydro (n; adj)[W11] [short for hydropower]
hydro$x$[W11]
hydroelectric (adj)[W11]
hydropower (n)[W11]

ice melt (n; adj)*
ice-out (n[W11]; adj*)
image-processing (adj)*
index (n)[W11] [plural: indices *or* indexes]
inflow (n)[W11]
inflow (v)[W3]
$x$ing[2]
in-lake (adj)*
in-river (adj)*
inshore (adj; adv)[W11]
in stream (n)*
instream (adj)*
interisland (adj)[W11]
intervertebral disk (n)[W11, 23]
in vitro (adj; adv)[W11] [not italic]
in vivo (adj; adv)[W11] [not italic]
iteroparous (adj)*

johnboat (n)[W11, 18]
kick-sampling (n; adj)*
kick-seining (n; adj)*
x-kilometer[19]

lake bed (n^W3; adj*) [lakebed all right
  when used with streambed]
lakefront (n)^W11
lakeshore (n)^W11
lakeside (n)^W11
lake water (n; adj)*
laptop (n; adj)^W11
large-scale (adj)^W11
larva (n)^W11 [plural: larvae]
larval (adj)^W11
lateral line (n^W11; adj*)[5]
lateroventral (n)*
length-cohort (n; adj)*[17]
length frequency (n)*
length frequency or length-frequency
(adj)*[25]
length-group (n; adj)*[17]
length–weight (adj)* [length and weight]
length : weight (adj)* [length to weight]
leukocrit (n)*
leukocyte (n)^W11
life cycle (n^W11; adj*)
life history (n^W11; adj*)
life-size or life-sized (adj)^W11
life span (n^W11; adj *)
life stage (n; adj)*
lifestyle (n)^W11
lifetime (n; adj)^W11
light pen (n^W11; adj*)
lightproof (adj)^W11
light stick (n; adj)*
lightweight (n)^W11
xlike[21]
limited access (n)*
limited-access (adj)^W11
limited entry (n)*
limited-entry (adj)*
live-box (n^W11; adj*)
live-cage (n; adj)*
live trap (n)^W11
live-trap (adj)*
livetrap (v)^W11
liveweight (n)^W3
live well (n)^W3 [live-box for fish]
live-well (adj)*
long-line (v)*

longline (n)^W11
long-liner (n)^W11
long-lining (n)^W11
long-lived (adj)^W11
longshore (adj)^W3
long-term (adj)^W11
longtime (adj)^W11
low-head (adj)

mainframe (n)^W11
main stem (n)^W11
main-stem (adj)*
mainstream (n; adj)^W11
x maker[1]
x making[2]
mark–recapture (n; adj)*
mass mark (n)*[9]
mass-mark (v)*[9]
mass-marked (adj)*[9]
mass marking (n)*[9]
mass-marking (adj)*[9]
megalops (n)^W3 [plural: megalops
  or megalopses]^W11
megalopic (adj)^W3
meltwater (n)^W11
microchip (n)^W11
microcomputer (n)^W11
microwell plate (n; adj)
microwire tag (n)*
microwire-tagged (adj; v)*
mid (adj)^W11 or mid-[6]
middepth (n)*[6]
midwater (n+; adj*)[6]
x-mile[19]
minicomputer (n)^W11
minimum size limit (n)*
minimum-size-limit (adj)*
mixed-stock analysis (n)*
mollusk [preferred] or mollusc (n)^W11
xmost (adj)^W11
mother ship (n)^W3
mother ship or mothership (adj)*
motorboat (n)^W11, [18]
mouthbreeder (n)^W11
mouthbrooder (n)*
mouth-brooding (adj)*

multispecies (adj)[W11]

near shore (n)*
nearshore (adj; adv)[W11]
net-day; net-night (n)*[19]
net-pen (n; adj)*
net lift
net plankton (n[W3]; adj*)
network (n; v)[W11]
networking (n)[W11]
neutron activation (n; adj)*
nick translation (n; adj)*
nick-translated [open after noun]
nitrate-nitrogen *or* NO_3-N (n)*
nitrite-nitrogen *or* NO_2-N (n)*
nonangler (n)*
nonnative (n)[W11]
nonnormal (n)*
non-point-source (adj)*[13]
non-yolk-bearing (adj)*[13]
number crunching (n)[W11]
number-crunching (adj)*

off-center *or* off-centered (adj)[W3]
off shore (n)*
offshore (adj; adv)[W11]
off-station (adj)*
old growth (n)[W3]
old-growth (adj)*
onboard (adj)[W11]
on site (n)*
on-site (adj; adv)[W11]
open-formula diet (n)*
open water (n)[W3]
open-water (adj)*
optical disk *or* disc (n)[W11, 23]
x-order[16]
out-migrant (n[W11]; adj*)
out-migrate (v)[W11]
out-migration (n[W11]; adj*)
overfish (v)[W11]
overfishing (n)
overwinter (v; adj)[W11]

Pascal *or* PASCAL (n)[W11]
pattern recognition (adj)*

PC (n)[W11] [personal computer]
percent (n; adj; adv)[W11]
percentage (n)[W11]
Petersen disc (n; adj)*
phone book (n; adj)*
phosphorous (adj)[W11]
phosphorus (n)[W11] [the element]
physicochemical (adj)[W11]
PIT tag (n; adj)*
PIT-tag (v)*
PIT tagging (n)*
point source (adj)*
policymaker (n)*[1]
pond water (n; adj)*
pop net (n)*
pop-net (adj)*
post*x*
poststocking (adj)*
powerhouse (n)[W11]
power plant (n[W11]; adj*)[4]
power station (n[W11]; adj*)[4]
predator–prey (adj)*
presmolt (n; adj)*
prey fish (n; adj)*
pre-yolk-sac (adj)*[13]
proteinase *K*
purse seine *or* purse net (n)[W11]
purse-seine (adj; v)*[10]
purse seiner (n[W11]; adj*)
purse seining (n)[W11]
purse-seining (adj)*
push net (n)[W3]
push-net (adj)*

quasi*x* (adj)[W11]

radio tag (n; adj)*[12]
radio-tag (v)*[12]
radio-tagged (adj; v)*[12]
radiotelemetry (n)[W11, 12]
radio-track (v)*
radio-tracked (v; adj)*
radio transmitter (n[W3]; adj*)
rain forest (n[W11]; adj*)
rebar (n)[W11]
recirculating water (adj)

riverbank (n)[W11]
riverbed (n)[W11]
RNase (n)[W11] [*not* RNAase]
rootwad (n)*
R plasmid (n)*[11]
run off (v)[W11]
runoff (n)[W11]

sagitta (n)[W3] [plural: sagittas *or* sagittae]
saltfish (n)*
salt lake (n[W11]; adj*)
salt marsh (n)[W11]
salt-marsh (adj)[W3]
salt water (n)[W3]
saltwater (adj)[W11]
seabed (n)[W11]
seafloor (n)[W11]
sea grass (n)[W11]
sea ice (n[W3]; adj*)
sea level (n[W11]; adj*)
sea pen (n[W11]; adj*) [an anthozoan]
sea-pen (n; adj)* [type of net-pen]
sea ranching (n)*
sea-ranching (adj)*
sea-run (adj)[W11]
sea-running (adj[W3]; v*)
sea surface (adj)*
seawater (n)[W11]
Secchi disk (n; adj)*
second growth (n)[W11]
second-growth (adj)*[16]
second-order (adj)[W3, 16]
seine (v)[W11]
seine *or* seine net (n)[W11]
seine *or* seine-net (adj)*
seiner *or* seine-netter (n)[W11]
semelparous (adj)*
serum (n)[W11] [plural: sera *or* serums]
setline (n)[W11]
shallow water (n)*
shallow-water (adj)*
shoreline (n)[W11]
short tandem repeat (n; adj)
short term (n)*
short-term (adj)[W11]
side-scan sonar (n)[W11]

single-nucleotide polymorphism
x-size *or* *x*-sized
size-class (n; adj)*
size-frequency (adj)*
size-group (n; adj)*[17]
size range (n)*
size-selective (adj)* [size selective after noun]
snowmelt (n)[W11]
sociocultural (adj)[W11]
socioeconomic (adj)[W11]
socioeconomics (n)*
software (n)[W11]
soft water (n)*
soft-water (adj)*
species' [possessive]
species composition (n; adj)*
x-specific
speedboat (n)[W11, 18]
sport fish (n[W11]; adj*)
sport fisherman (n[W11]; adj*) [the person]
sportfisherman (n)[W11] [the boat]
sport fishery (n; adj)*
sportfishing (n)[W11]
sportfishing (adj)*
spreadsheet (n)[W11]
springwater (n)[W3]
stainless steel (n[W11]; adj*)
starch gel (n; adj)*
state-space (n; adj)
steady state (n; adj)[W11]
stock–recruit (adj)*
stock–recruitment (n; adj)*
stop-log (n)
streambank (n)*
streambed (n)[W11]
streamflow (n)[W3]
streamside (n)[W11]
strip-spawned (adj; v)*
strip-spawning (n; adj)*
superphosphate (n)[W11]
surface water (n; adj)*
surplus production model
swim bladder (n[W11]; adj*)[24]
swim-up (n; adj)*

tag–release (n; adj)*
tailwater (n)[W11]
tap water (n[W11]; adj*)
T cell (n; adj)[W11, 11]
thin section (n)[W3]
thin-section (v)*
third-order (adj)[W3, 16]
tidewater (n)[W11]
timesaving (adj)[W11]
time series (n[W11]; adj*)
tow net or towing net (n)+
townet (v; adj)*
trapline (n)[W11]
trap net (n)[W3]
trap-net (adj)*
trap-net (v)*
trap-netting (n; v)*
travel cost (n; adj)*
T wave (n)[W3]
T-wave (adj)*
type *x*; *x*-type[17]
type A (adj)[W11, 17]
type species (n[W11]; adj*)

ultraviolet-A
un-ionized (adj)*
uranium-235 (n; adj)+[15]

video camera (n)*
video-camera (adj)*
videocassette (n)[W11]
videodisc (n)[W11, 23]
videotape (n; v)[W11]
video terminal (n)*
virus-like (adj)*[21]
vitamin *x* (adj)
vitamin-C-free diet

warm water (n)[W3]
warmwater (adj)[W3]
wastewater (n)[W11]
waterborne (adj)[W11]
water column (n[W3]; adj*)
water-hardened (adj; v*)

water hardening (n)*
water-hardening (adj)*
waterpower (n)[W11]
water quality (n; adj)*
water year (n; adj)*[20]
weigh in (v)[W11]
weigh-in (n)[W11]
weight frequency (n)*
weight frequency or weight-frequency (adj)*[25]
weight–length (n; adj)*
well-being (n)[W11]
well-known (adj)[W11] [*but* very well known (adj)]
well water (n; adj)*
white water (n)[W11]
white-water (adj)[W11]
*x*wide[22]
widespread (adj)[W11]
wide-spreading (adj)[W11]
willingness to pay (n)*
willingness-to-pay (adj)*
winter-kill (v)[W11]
winterkill (n)[W11]
worksheet (n+; adj*)

X-radiation (n)[W11]
X-ray (n; adj; v)[W11]
x-section (n)[W11] [cross-section preferred]
x-year or x year[19,20]

year-class (n)+[14]
year-class (adj)*
x-year-old(s) (n; adj)*[7]
yield per recruit (n)
yield-per-recruit (adj)
young of year or young of the year (n)
young-of-year or young-of-the-year (adj.)
  [abbreviate as age 0/age-0]

zoea (n)[W11] [plural: zoeae or zoeas]
zoeal (adj)[W3]

In the following notes the term "open" refers to a compound word in which the components are separated by spaces (e.g., "point source") and the term "closed" to a compound word in which the components are not separated by spaces (e.g., "warmwater").

1. decision maker, *x* maker: Most compounds involving "maker" are open, but "policymaker" is an important exception.

2. decision making; *x*-ing: Temporary compounds formed from a noun and a gerund are generally open as nouns, but many permanent compounds are closed (e.g., bookkeeping). Adjectival compounds formed from a noun and a present participle are hyphenated before the nouns they modify (e.g., decision-making event), and a few permanent compounds are hyphenated after the noun as well (e.g., thought-provoking).

3. early: When used as an adjective, "early" can be hyphenated (e.g., early-life behavior). However, it may be better to rewrite some phrases (e.g., to use the adverbial form "early migrating salmon" instead of the adjectival form "early-migrant salmon"). Phrases such as "early life history" are not hyphenated because combinations like "life history" and "life stage" are treated as compound nouns (i.e., "early" modifies "life history").

4. generating plant, generating station: These terms are open compound nouns, so modifiers preceding "generating" are not followed by hyphens (e.g., power generating station, electricity generating plant). (Note: A nuclear plant is not always a nuclear power generating plant [e.g., the Savannah River site produces nuclear material for defense rather than electricity]).

5. fin fold, lateral line: Names of body parts should be treated as open compound nouns and not hyphenated when used as adjectives.

6. mid, middepth, etc.: The word "mid" can be treated as an adjective, but AFS generally prefers to treat it as a prefix (e.g., midseason, midyear). It is hyphenated when it modifies a proper noun, date, or number (e.g., mid-August, mid-1988). If it is separated from its stem by other words, it can stand alone (e.g., mid to late March *but* early to mid-March).

7. *x*-year-olds: There is some inconsistency in Webster's dictionaries with

respect to these terms. AFS uses the hyphenated form for the noun as well as the adjective.

8. cold brand, freeze brand: Although many compound nouns with the word "freeze" are hyphenated in Webster's dictionaries, nearly all compound nouns with the word "cold" are open; AFS has therefore chosen to leave all such terms open. Most compound nouns with the word "freezing" are open (e.g., freezing point), but most of the adjectival forms have hyphens (e.g., freezing-point measurement).

9. mass mark, etc: Webster's dictionaries leave most compounds with "mass" open when they are nouns but hyphenate the adjectival and verb forms.

10. purse-seine: The verb form is hyphenated for clarity, even though most of the verbs pertaining to capture techniques are closed (e.g., gillnet).

11. B cell, R plasmid, T cell: All cytological entities designated by a capital letter should be left open as nouns and adjectives (e.g., T cell deficiency, B leukocyte measurements) unless treated otherwise in W11 or hyphens are needed because of the construction (e.g., T-cell-dependent antigens).

12. radio tag, etc.: Webster's dictionaries close up all "radio" prefixes when they refer to radioactivity. When the reference is to the radio frequency spectrum, most such terms are open as nouns.

13. non-yolk-bearing, pre-yolk-sac: When a prefix is added to a hyphenated word, a hyphen should come after the prefix.

14. year-class: W3 lists "year class" as a noun, the only instance of an open "-class" or "- group" term. For editorial consistency, AFS hyphenates this term as a noun.

15. carbon-14, cobalt-60, uranium-235: Although these isotopes are open in W11, the standard practice in scientific writing is to place a hyphen between the spelled-out element name and the mass number. When the element symbol is used, the number should be a superscript placed before the symbol (e.g., ^{32}P).

16. first-order, second-growth: All rank-order compound adjectives are hyphenated.

17. age-group, size-group, length-cohort; type x, x-type: Do not hyphenate adjectives of the forms "type x" and "group x" unless hyphenation is needed for clarity.

Hyphenate all compound nouns and adjectives that end in "cohort," "group," or "type."

18. *x* boat, *x*boat: Many boat types are open (e.g., charter boat, drift boat); others are closed (e.g., headboat, johnboat, motorboat, and speedboat). Open compounds can either be left open or hyphenated when used as adjectives.

19. angler-day, angler-hour, net-day; *x*-day, *x*-hour, *x*-kilometer, *x*-mile: Use a hyphen in these rate or effort terms and in specialized units of measure such as light-year (distance) and acre-foot (volume).

20. brood year, water year, etc.: These noun–noun combinations are measures of time (although they may be different from the calendar year); they are not efforts or rates (e.g., angler-hour) or units of measure (e.g., light-year), and like "fiscal year," they are left open as nouns and adjectives.

21. bleb-like, virus-like; *x*like: Words formed with the suffix "like" are generally closed. However, "bleb-like" and "virus-like" are hyphenated for clarity and to follow common usage in the fish health literature.

22. ecosystem-wide; *x*wide: Words with the suffix "wide" are generally closed; however, CMS allows them to be hyphenated if the root word is long or of several (more than two) syllables (thus "ecosystem-wide" but "systemwide").

23. compact disc, disc brakes, etc.: There is considerable variation in W11 in the use of "disk" versus "disc," the former appearing to be the preferred spelling for most noncomputer terms except "disc brakes." Use "disk" for electronic storage media and "disc" for optical and video storage media, and follow the dictionary for other words.

24. air bladder, gas bladder, swim bladder: These open compounds refer to the hydrostatic organ present in most fish. "Air bladder" and "gas bladder" are preferable to "swim bladder." "Air sac" should be reserved for the air-filled space in birds.

25. length frequency, weight frequency: In keeping with the move toward not hyphenating noun–noun combinations used as adjectives, AFS no longer enforces its previous standard of hyphenating *x*-frequency words when they are used as adjectives. Hyphenated forms are acceptable, however.